



STIC Search Report

EIC 1700

STIC Database Tracking Number: 172672

**TO: Dawn Garrett
Location: REM 10C79
Art Unit : 1774
November 30, 2005**

Case Serial Number: 10/625096

**From: Usha Shrestha
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3519
usha.shrestha@uspto.gov**

Search Notes

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 11/28/2005
 Art Unit: 1774 Phone Number 2-1523 Serial Number: 10/625,096
 Mail Box and Bldg/Room Location: _____ Results Format Preferred (circle): PAPER DISK E-MAIL
Remain 10079

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Norman Heron, Howard Simmons, Daniel Lebloux,
Frank Uchert
 Inventors (please provide full names): Metallic Complexes Covalently Bound to
Conjugated Polymers and Electronic Devices Containing Such
Compounds
 Earliest Priority Filing Date: 7/30/2002 (60/399,934- U.S. provisional)

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search polymeric metal complex
 and 15
 Composition described in claims 1 attached.

Terms like
 (Luminescent, fluorescent, light emitting, or phosphorescent
 may be used to narrow search results if needed.)

Thank you

SCIENTIFIC REFERENCE BR
 Sci & Tech Inf. Cntr

NOV 29 2005

Pat. & T.M. Office

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>WJL</u>	NA Sequence (#) _____	STN <u>899-83</u> <u>499-92</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>1</u>	Questel/Orbit _____
Date Searcher Picked Up: <u>11/30/05</u>	Bibliographic _____	Dr. Link _____
Date Completed: <u>11/30/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>60</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>12-0</u>	Other _____	Other (specify) _____

=> fil reg

=> d his ful

FILE 'LREGISTRY' ENTERED AT 14:20:00 ON 30 NOV 2005

L1 STR

FILE 'REGISTRY' ENTERED AT 14:22:58 ON 30 NOV 2005

L2 STR L1
L3 50 SEA SSS SAM L2
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L5 50 SEA SSS SAM L2 AND L4
D QUE STAT L5
L6 STR L2
L7 SCR 1918
L8 50 SEA SSS SAM L6 AND L7
DIS SIA L6
L9 SCR 1841
L10 50 SEA SSS SAM L6 AND L7 AND L9
L11 SCR 2049
L12 50 SEA SSS SAM L6 AND L7 AND L9 AND L11
L13 SCR 2026
L14 50 SEA SSS SAM L6 AND L7 AND L9 AND L11 NOT L13
L15 SCR 2016
L16 50 SEA SSS SAM L6 AND L7 AND L9 AND L11 NOT (L13 OR L15)
L17 SCR 1843
L18 50 SEA SSS SAM L6 AND L7 AND L17 AND L11 NOT (L13 OR L15)
D QUE STAT L18
L19 65265 SEA SSS FUL L6 AND L7 AND L17 AND L11 NOT (L13 OR L15)
D QUE STAT L19
SAV L19 TEMP GAR096/A

FILE 'HCAPLUS' ENTERED AT 15:16:51 ON 30 NOV 2005

L20 47837 SEA ABB=ON PLU=ON L19
L21 580797 SEA ABB=ON PLU=ON LUM!N? OR ORGANOLUM!N? OR (ELECTRO
OR ORGANO OR ORG#) (2A) LUM!N? OR LIGHT? (2A) (EMIT? OR
EMISSION?) OR EL OR E(W)L OR L(W)E(W)D OR OLED OR LED
OR PHOSPHORESCEN? OR FLUORECEN?
L22 498 SEA ABB=ON PLU=ON L20(L) L21
L23 7 SEA ABB=ON PLU=ON L22 AND PLASTIC?/SC
L24 17 SEA ABB=ON PLU=ON L22 AND PLASTIC?/SC,SX
L25 128 SEA ABB=ON PLU=ON L22 AND DEVICE?

FILE 'REGISTRY' ENTERED AT 15:27:21 ON 30 NOV 2005

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L27 6406 SEA ABB=ON PLU=ON L19 AND (1-4/IR OR 1-4/PT OR
1-4/RH OR 1-4/RU OR 1-4/OS OR 1-4/AU)

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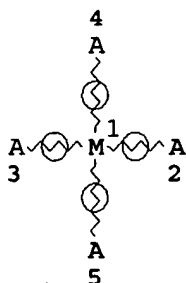
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L29 1 SEA ABB=ON PLU=ON US20040072018/PN
L30 345 SEA ABB=ON PLU=ON L28 AND (ELECTROLUMIN? OR LUMIN?
OR LIGHT(A)EMIT? OR PHOSPHORESCEN? OR FLUORESCEN?)
L31 1 SEA ABB=ON PLU=ON L30 AND L29
L32 25 SEA ABB=ON PLU=ON L30 AND PLASTIC?/SC,SX
L33 30 SEA ABB=ON PLU=ON L23 OR L24 OR L32

=> d que 133

L6

STR

Ak 6



NODE ATTRIBUTES:

NSPEC IS R AT 1
 NSPEC IS R AT 2
 NSPEC IS R AT 3
 NSPEC IS R AT 4
 NSPEC IS R AT 5
 CONNECT IS E1 RC AT 6
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS M4 C AT 6

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L7 SCR 1918
 L11 SCR 2049
 L13 SCR 2026
 L15 SCR 2016
 L17 SCR 1843
 L19 65265 SEA FILE=REGISTRY SSS FUL L6 AND L7 AND L17 AND L11
 NOT (L13 OR L15)
 L20 47837 SEA FILE=HCAPLUS ABB=ON PLU=ON L19
 L21 580797 SEA FILE=HCAPLUS ABB=ON PLU=ON LUM!N? OR ORGANOLUM!N?
 OR (ELECTRO OR ORGANO OR ORG#) (2A) LUM!N? OR LIGHT? (2A)
 (EMIT? OR EMISSION?) OR EL OR E(W)L OR L(W)E(W)D OR
 OLED OR LED OR PHOSPHORESCEN? OR FLUORECEN?
 L22 498 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 (L) L21
 L23 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 AND PLASTIC?/SC
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 1-4/PT OR 1-4/RH OR 1-4/RU OR 1-4/OS OR 1-4/AU)
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 L30 345 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 AND (ELECTROLUMIN?
 OR LUMIN? OR LIGHT(A) EMIT? OR PHOSPHORESCEN? OR
 FLUORESCEN?)
 L32 25 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 AND PLASTIC?/SC, SX
 L33 30 SEA FILE=HCAPLUS ABB=ON PLU=ON L23 OR L24 OR L32

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 15:58:08 ON 30 NOV 2005

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L33 ANSWER 1 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:1129692 HCAPLUS

DOCUMENT NUMBER: 143:396478

TITLE: Manufacture of based film for liquid crystal panel

INVENTOR(S): Takahashi, Tatsumi; Takechi, Kazushige; Sumiyoshi, Ken; Fujieda, Ichiro; Genta, Kazuo; Kumano, Atsushi; Oshima, Noboru; Matsuoka, Yoshiki; Eguchi, Toshimasa; Yamaoka, Shigenori; Ono, Yoshiyuki; Yonehara, Yoshitomo; Suzuki, Motoyuki; Tsukuda, Akimitsu; Sekine, Tokumasa; Tsuruoka, Yasuo

PATENT ASSIGNEE(S): Dainippon Printing Co., Ltd., Japan; NEC Corp.; Konica Minolta Holdings, Inc.; JSR Ltd.; Sumitomo Pharmaceutical Co., Ltd.; Sumitomo Bakelite Co., Ltd.; Dainippon Ink and Chemicals, Inc.; Toray Industries, Inc.; Toppan Printing Co., Ltd.; Hitachi Chemical Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 110 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005292420	A2	20051020	JP 2004-106457	2004 0331
WO 2005101910	A1	20051027	WO 2004-JP18244	2004 1208

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

JP 2004-106457

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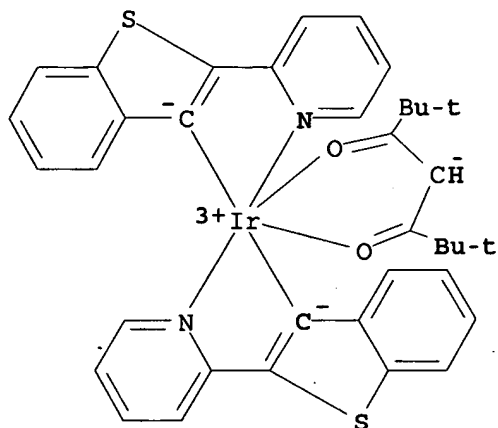
2004

0331

AB Title liquid crystal display panel base film comprises a long organic resin substrate having thickness of 10-200 μ m, flexibility represented by a curvature diameter <40 mm, and thermal expansion < \pm 50 ppm/degree. The film may contain an inorg. filler and may have an oxygen- and moisture-barrier layer. A functional film for a liquid crystal panel having the above base film, a method of manufacture of the film, and an apparatus for manufacture of the film are also

claimed.

IT 344796-22-1
 (manufacture of functional films for liquid crystal panel)
 RN 344796-22-1 HCAPLUS
 CN Iridium, bis[2-(2-pyridinyl-κN)benzo[b]thien-3-yl-κC] (2,2,6,6-tetramethyl-3,5-heptanedionato-κO,κO')-, (OC-6-33)- (9CI) (CA INDEX NAME)



IC ICM G02F001-1333
 ICS B32B007-02; B32B027-30; B32B027-34; G02B005-30; G02F001-1335;
 H05B033-02; H05B033-04; H05B033-12; H05B033-14; H05B033-26
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 38
 IT Electroluminescent devices
 Liquid crystals, polymeric
 Optical filters
 Polarizing films
 Thin film transistors
 (manufacture of functional films for liquid crystal panel)
 IT 2085-33-8, Alq3 4733-39-5 7440-21-3, Silicon, uses
 9002-89-5, Polyvinyl alcohol 12033-89-5, Silicon nitride, uses
 24304-00-5, Aluminum nitride 25067-59-8, PVK 58328-31-7
 123847-85-8 344796-22-1 376367-93-0
 (manufacture of functional films for liquid crystal panel)

L33 ANSWER 2 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:395412 HCAPLUS

DOCUMENT NUMBER: 142:455291

TITLE: Organic semiconductors incorporating triplet emitters and their uses and electronic devices employing them

INVENTOR(S): Heun, Susanne; Scheurich, Rene; Buesing, Arne; Falcou, Aurelie; Gerhard, Anja; Stoessel, Philipp; Vestweber, Horst

PATENT ASSIGNEE(S): Covion Organic Semiconductors G.m.b.H., Germany

SOURCE: PCT Int. Appl., 56 pp.

CODEN: PIXXD2

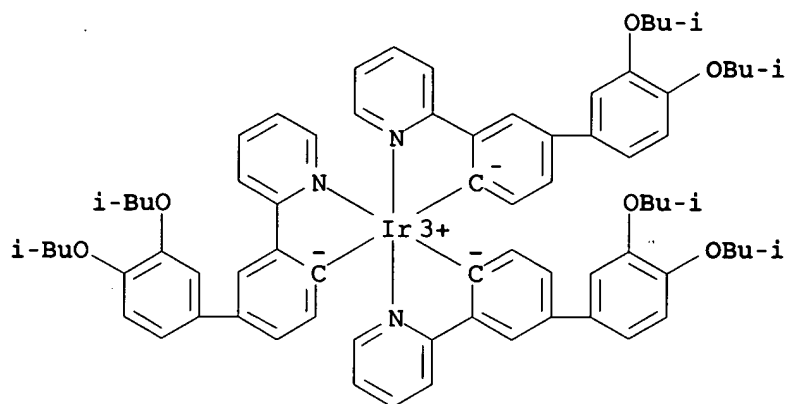
DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005040302	A1	20050506	WO 2004-EP11888	2004 1021
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10349033	A1	20050525	DE 2003-10349033	2003 1022
DE 102004003008	A1	20051006	DE 2004-102004003008	2004 0120
PRIORITY APPLN. INFO.:			DE 2003-10349033	A 2003 1022
			DE 2004-102004003008A	2004 0120
AB	Organic semiconductors are described which comprise ≥ 1 polymer, ≥ 1 structural units including double bonds, and ≥ 1 triplet emitter (with certain restrictions). Electronic devices employing the materials in active layers are also described. The use of the materials in organic light-emitting diodes, organic lasers, and organic solar cells, and for nonlinear optical applications, is also described.			
IT	667935-11-7 (organic semiconductors incorporating triplet emitters and their uses and electronic devices employing them)			
RN	667935-11-7 HCAPLUS			
CN	Iridium, tris[3',4'-bis(2-methylpropoxy)-3-(2-pyridinyl- κ N)[1,1'-biphenyl]-4-yl- κ C]-, (OC-6-22)- (9CI) (CA INDEX NAME)			



IC ICM C09K011-06
 ICS H01L051-30; C07F015-00; H05B033-14; C08G061-00; C08L065-00
 CC 76-3 (Electric Phenomena)
 Section cross-reference(s): 38, 52, 73
 ST org semiconductor triplet emitter electronic device; light-emitting diode org semiconductor triplet emitter; semiconductor laser org semiconductor triplet emitter; solar cell org semiconductor triplet emitter; nonlinear optical org semiconductor triplet emitter
 IT 189363-47-1 343978-79-0 466671-87-4 667935-11-7
 782504-07-8 824426-27-9 851182-59-7
 (organic semiconductors incorporating triplet emitters and their uses and electronic devices employing them)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 3 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:300497 HCAPLUS
 DOCUMENT NUMBER: 142:356334
 TITLE: Polymer complex compounds for polymer light-emitting devices
 INVENTOR(S): Mikami, Satoshi; Noguchi, Takanobu; Tsubata, Yoshiaki
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 82 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030829	A1	20050407	WO 2004-JP14533	2004 0927

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT,

RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT,
 TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
 ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH,
 CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU,
 MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI,
 CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 JP 2005126696 A2 20050519 JP 2004-281055

2004

0928

PRIORITY APPLN. INFO.:

JP 2003-337311

A

2003

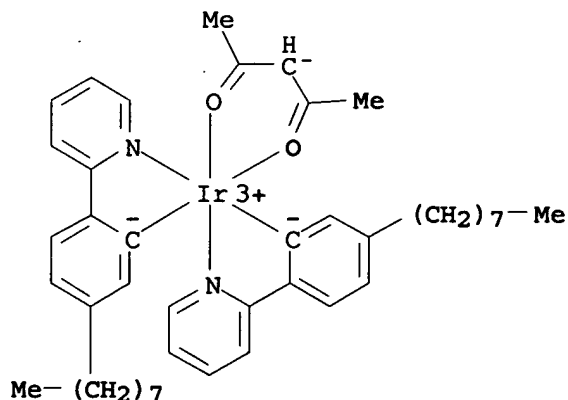
0929

AB Disclosed are polymer complex compds. containing a repeating unit $Ar_1CA_1B_1Ar_2(Z_1)_n$ and having number average mol. weight $1 + 103 - 1 + 108$, wherein Ar_1 , Ar_2 = independently arylene or divalent heterocyclic or divalent aromatic amine; A_1 = aryl, monovalent heterocyclic or aromatic amine (A_1 contains Z-T); T = monovalent metal complex; Z = direct bond, CR20:CR21, C.tplbond.C, R22, OR22, R22O, OR22O, C(:O)O, OC(:O), C(:O), O, N(R23)C(:O), C(:O)NR23, N:CH or CH:N; B1 = H, halogen atom, alkyl, hydroxy, alkoxy, carboxy, phenoxy, alkyloxycarbonyl, alkylcarbonyloxy, amino, alkylamino, aryl, monovalent heterocyclic or monovalent aromatic amine; Z1 = CR1:CR2 or C.tplbond.C; R1, R2, R20, R21 = H, aryl, alkyl, monovalent heterocyclic, or cyano; R22 = alkylene or alkenyl; R23 = H, alkyl, aryl, or monovalent heterocyclic; and n = 0 or 1. Thus, 1-[4-(bromomethyl)phenyl]-1'-(4-chlorophenyl)-1''-(4-chlorophenyl)methane and triethylphosphate were reacted, 4-(2-pyridyl)benzaldehyde was added therein and reacted, the resulting compound was polymerized with 1,4-dichloro-2-[4-(3,7-dimethyloctyloxy)phenyl]benzene at 60° for 8 h in the presence of bis(1,5-cyclooctadienyl)nickel to give a copolymer, which was dissolved in diethylene glycol with iridium complex and reacted at 175° to give a polymer metal complex.

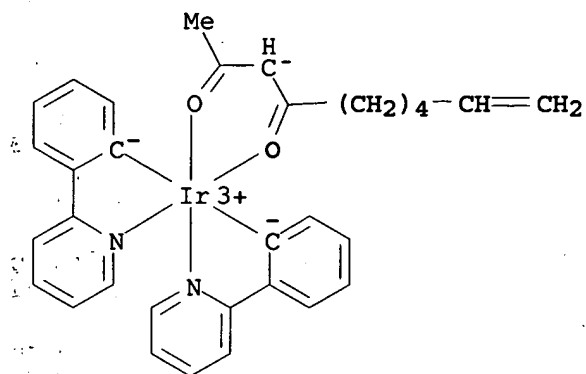
IT 848464-90-4DP, complexes with conjugated polymers
 848859-66-5DP, complexes with conjugated polymers
 (preparation of polymer complex compds. for polymer light-emitting devices)

RN 848464-90-4 HCAPLUS

CN Iridium, bis[5-octyl-2-(2-pyridinyl-κN)phenyl-κC] (2,4-pentanedionato-κO,κO') - (9CI) (CA INDEX NAME)

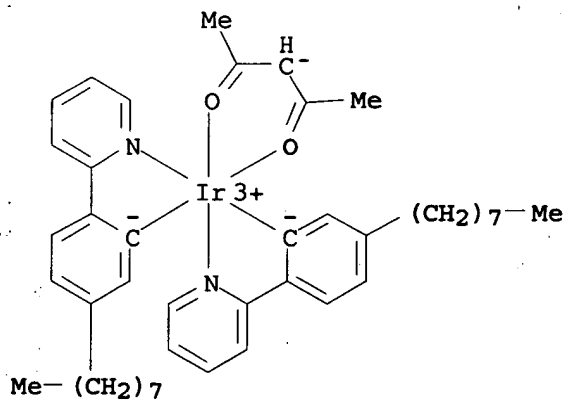


RN 848859-66-5 HCAPLUS
 CN Iridium, (9-decene-2,4-dionato- κ O, κ O')bis[2-(2-pyridinyl- κ N)phenyl- κ C] - (9CI) (CA INDEX NAME)

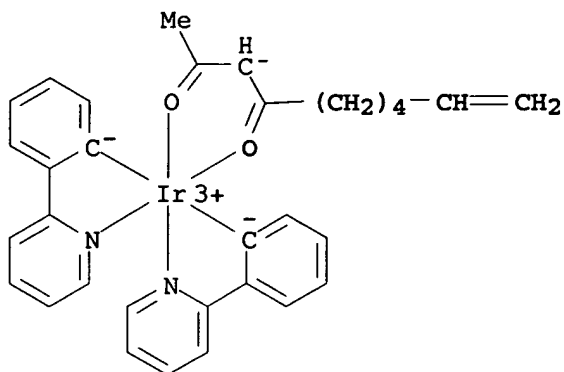


IT 848464-90-4 848859-66-5
 (preparation of polymer complex compds. for polymer light-emitting devices)

RN 848464-90-4 HCAPLUS
 CN Iridium, bis[5-octyl-2-(2-pyridinyl- κ N)phenyl- κ C] (2,4-pentanedionato- κ O, κ O') - (9CI) (CA INDEX NAME)



RN 848859-66-5 HCAPLUS
 CN Iridium, (9-decene-2,4-dionato- κ O, κ O')bis[2-(2-pyridinyl- κ N)phenyl- κ C] - (9CI) (CA INDEX NAME)



IC ICM C08G061-00
ICS C09K011-06; G02F001-1335
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 74
ST polymer complex compd light emitting device;
bromomethylphenylbischlorophenylmethane pyridylbenzaldehyde
reactant; phenylpyridine contg polymer iridium complex prepn
IT Liquid crystal displays
(back light; preparation of polymer complex compds. for polymer
light-emitting devices)
IT Electroluminescent devices
Light sources
Luminescent substances
Optical imaging devices
(preparation of polymer complex compds. for polymer light-
emitting devices)
IT 848859-62-1P
(intermediate; preparation of polymer complex compds. for polymer
light-emitting devices)
IT 848859-60-9P 848859-63-2P 848859-67-6P
(monomer; preparation of polymer complex compds. for polymer
light-emitting devices)
IT 337526-85-9DP, complexes with conjugated polymers
848464-90-4DP, complexes with conjugated polymers
848859-62-1DP, complexes with iridium compds. 848859-64-3DP,
reaction products with pyridinylphenylethenyl benzene derivs.,
complexes with iridium compds. 848859-65-4DP, reaction products
with conjugated polymers, complexes with iridium compds.
848859-66-5DP, complexes with conjugated polymers
848859-68-7DP, complexes with iridium complexes
(preparation of polymer complex compds. for polymer light-
emitting devices)
IT 337526-85-9 848464-90-4 848859-66-5
(preparation of polymer complex compds. for polymer light-
emitting devices)
IT 358-23-6, Trifluoromethanesulfonic acid anhydride 603-44-1,
4,4',4''-Trihydroxytriphenylmethane 87864-42-4 127406-56-8,
4-(2-Pyridyl)benzaldehyde 360568-79-2 848859-58-5
(reactant in monomer preparation; preparation of polymer complex compds.
for polymer light-emitting devices)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L33 ANSWER 4 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:260159 HCAPLUS
 DOCUMENT NUMBER: 142:344858
 TITLE: Luminescent materials and
 luminescent devices comprising
 luminescent materials
 INVENTOR(S): Sekine, Chizu; Akino, Nobuhiko; Mikami,
 Satoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan
 SOURCE: PCT Int. Appl., 111 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005026289	A1	20050324	WO 2004-JP13589	2004 0910

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,
 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,
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 KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
 MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT,
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 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
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 CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU,
 MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI,
 CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2005126686	A2	20050519	JP 2004-264236	2004 0910
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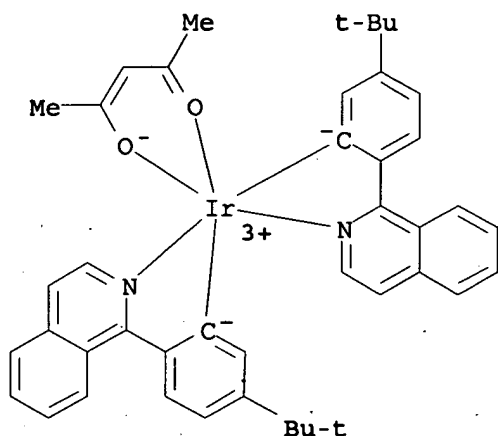
PRIORITY APPLN. INFO.: JP 2003-321520 A 2003
 0912
 JP 2003-337306 A 2003
 0929

AB A luminescent material which comprises (A) a conjugated polymer having an aromatic ring in the main chain and (B) a compound which luminesces in a triplet excited state, characterized in that in the polymer (A), the difference in energy between the vacuum level and the LUMO (LUMO) level in the ground state each calculated by an arithmetic chemical technique is 1.3 eV or the difference in energy between the vacuum level and the LUMO (LUMO) level in the ground state each measured exptl. is 2.2 eV or larger, and that the material satisfies the following requirement (1): Requirement (1) $ETA - ESAO > ETB - ESBO$ wherein $ESAO$ is the energy of the polymer (A) in the ground state; ETA is the energy of the polymer (A) in the min. excited triplet state; $ESBO$ is the energy of the compound (B) in the ground state; and ETB is the energy of the compound (B) in the min. excited triplet state.
 IT 848464-93-7

(luminescent materials and luminescent
devices comprising luminescent materials)

RN 848464-93-7 HCAPLUS

CN Iridium, bis[5-(1,1-dimethylethyl)-2-(1-isoquinolinyl- κ N)phenyl- κ C] [4-(hydroxy- κ O)-4-penten-2-onato]-(9CI) (CA INDEX NAME)

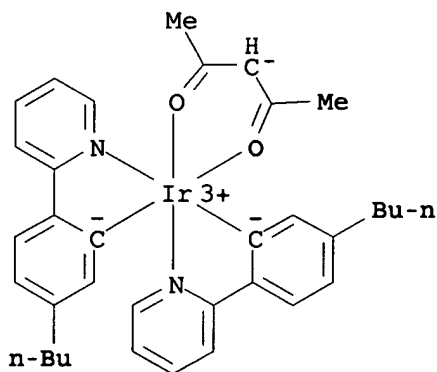


IT 848464-91-5P

(luminescent materials and luminescent
devices comprising luminescent materials)

RN 848464-91-5 HCAPLUS

CN Iridium, bis[5-butyl-2-(2-pyridinyl- κ N)phenyl- κ C] (2,4-pentanedionato- κ O, κ O')-(9CI) (CA INDEX NAME)

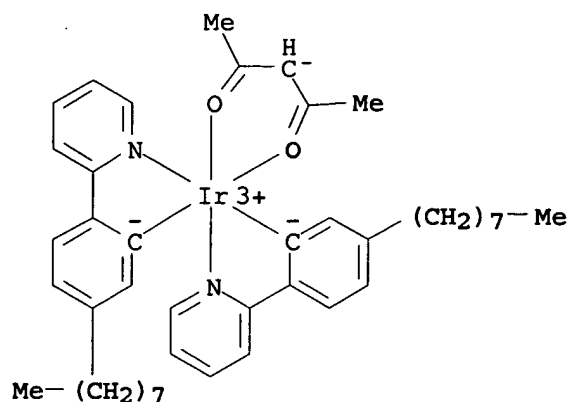


IT 848464-90-4P

(luminescent materials and luminescent
devices comprising luminescent materials)

RN 848464-90-4 HCAPLUS

CN Iridium, bis[5-octyl-2-(2-pyridinyl- κ N)phenyl- κ C] (2,4-pentanedionato- κ O, κ O')-(9CI) (CA INDEX NAME)

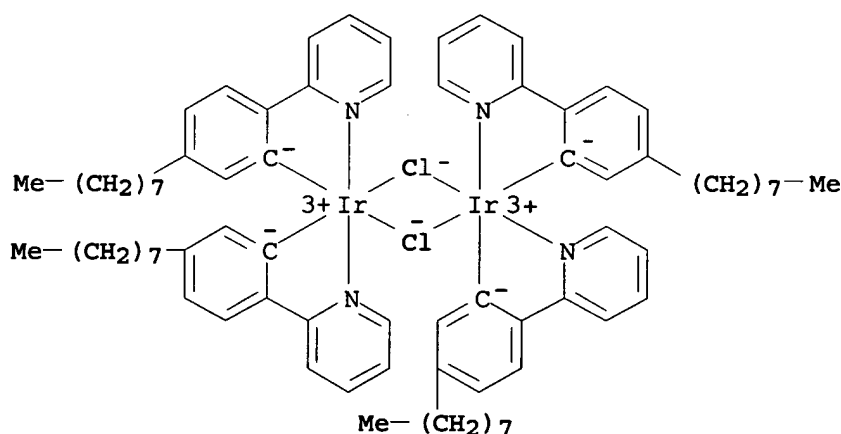


IT 848464-89-1

(luminescent materials and luminescent devices comprising luminescent materials)

RN 848464-89-1 HCAPLUS

CN Iridium, di-μ-chlorotetrakis[5-octyl-2-(2-pyridinyl)-κN]phenyl-κC]di- (9CI) (CA INDEX NAME)



IC ICM C09K011-06

ICS H05B033-14; C09D011-00

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 29, 38

ST luminescent material device prepn

IT Electroluminescent devices

Glass substrates

Luminescent substances

(luminescent materials and luminescent devices comprising luminescent materials)

IT Polymers, properties

(luminescent materials and luminescent devices comprising luminescent materials)

IT 848464-93-7

(luminescent materials and luminescent devices comprising luminescent materials)

IT 848464-91-5P
(luminescent materials and luminescent devices comprising luminescent materials)

IT 7429-90-5, Aluminum, properties 7440-70-2, Calcium, properties 7789-24-4, Lithium fluoride, properties 50851-57-5, Poly(styrenesulfonic acid) 50926-11-9, ITO 126213-51-2, Poly(ethylenedioxythiophene)
(luminescent materials and luminescent devices comprising luminescent materials)

IT 599212-68-7P
(luminescent materials and luminescent devices comprising luminescent materials)

IT 848464-90-4P
(luminescent materials and luminescent devices comprising luminescent materials)

IT 5914-48-7P, 3,6-Dibenzofurandiol 10016-52-1P 55316-86-4P, 2,8-Dibenzothiophenediol 334988-37-3P 540536-30-9P 577747-79-6P 599212-66-5P 599212-67-6P 599212-91-6P 599212-92-7P
(luminescent materials and luminescent devices comprising luminescent materials)

IT 599212-95-0P
(luminescent materials and luminescent devices comprising luminescent materials)

IT 109-04-6, 2-Bromopyridine 109-99-9, Tetrahydrofuran, reactions 110-80-5, 2-Ethoxyethanol 111-83-1, n-Octyl bromide 271-89-6, Benzofuran 31574-87-5, 2,8-Dibromodibenzothiophene 848464-89-1
(luminescent materials and luminescent devices comprising luminescent materials)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 5 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:260120 HCAPLUS

DOCUMENT NUMBER: 142:345270

TITLE: Polymer complex compound and polymeric luminescent element employing the same for liquid crystal display device

INVENTOR(S): Mikami, Satoshi; Nakatani, Tomoya

PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan

SOURCE: PCT Int. Appl., 163 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005026231	A1	20050324	WO 2004-JP13586	2004 0910

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT,

RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT,
 TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
 ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH,
 CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU,
 MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI,
 CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2005226065 A2 20050825 JP 2004-264234

2004
0910

JP 2005226066 A2 20050825 JP 2004-264235

2004
0910

PRIORITY APPLN. INFO.:

JP 2003-321518

A

2003
0912

JP 2003-321521

A

2003
0912

JP 2004-5172

A

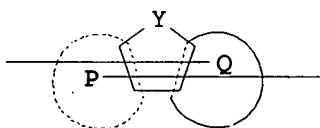
2004
0113

JP 2004-5173

A

2004
0113

GI



I

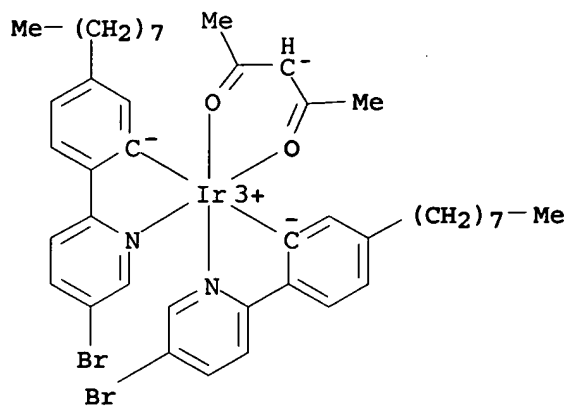
AB A polymer complex compound characterized by comprising repeating units represented by I (P and Q = aromatic ring, provided that the ring P may be present or absent; the two bonds are present on the ring P and/or the ring Q when the ring P is present, and are present on the five-membered ring including Y and/or the ring Q when the ring P is absent; and Y = -O-, -S-, etc.) and a metal complex structure which luminesces in a triplet excited state, emitting visible light in a solid state, and having a number-average mol. weight of 103 to 108 in terms of polystyrene.

IT 848572-13-4P 848572-15-6DP, polymer
 848572-17-8P 848572-21-4P 848572-23-6P

(preparation of polymer complex compound for polymeric luminescent element)

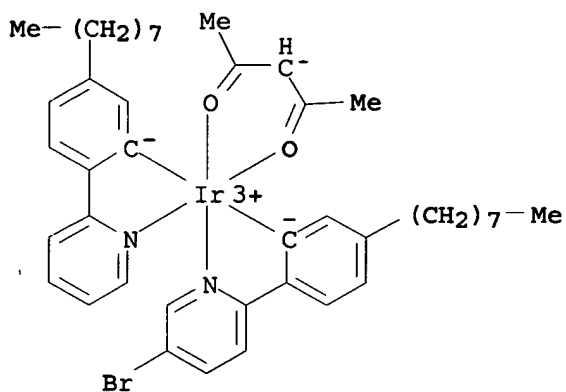
RN 848572-13-4 HCAPLUS

CN Iridium, bis[2-(5-bromo-2-pyridinyl-κN)-5-octylphenyl-κC] (2,4-pentanedionato-κO,κO') - (9CI) (CA INDEX NAME)



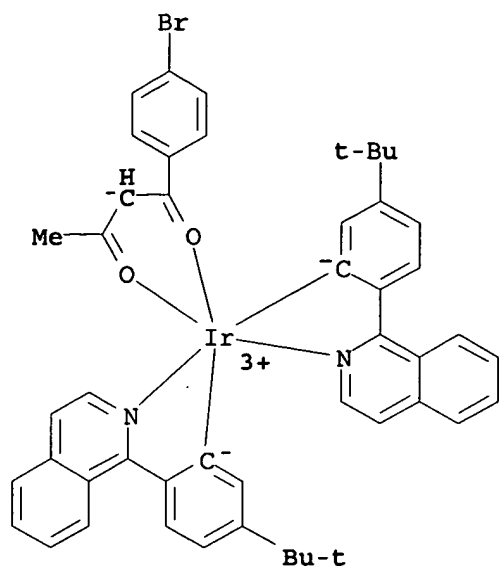
RN 848572-15-6 HCAPLUS

CN Iridium, [2-(5-bromo-2-pyridinyl-κN)-5-octylphenyl-κC] [5-octyl-2-(2-pyridinyl-κN)phenyl-κC] (2,4-pentanedionato-κO,κO') - (9CI) (CA INDEX NAME)



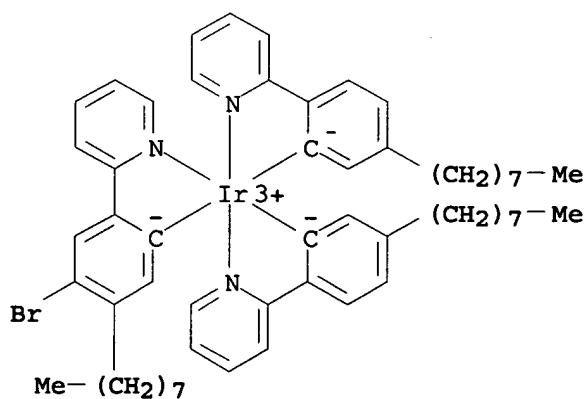
RN 848572-17-8 HCAPLUS

CN Iridium, [1-(4-bromophenyl)-1,3-butanedionato-κO,κO'] bis[5-(1,1-dimethylethyl)-2-(1-isoquinolinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



RN 848572-21-4 HCAPLUS

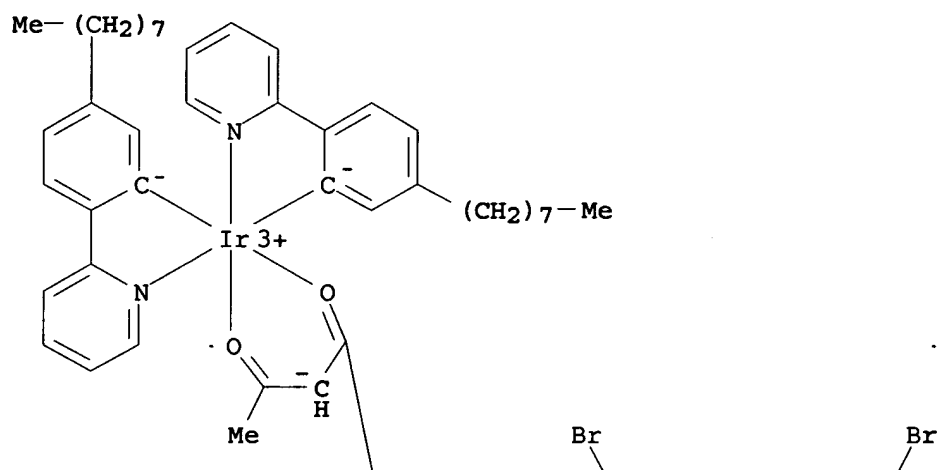
CN Iridium, [4-bromo-5-octyl-2-(2-pyridinyl-κN)phenyl-κC]bis[5-octyl-2-(2-pyridinyl-κN)phenyl-κC]-(9CI) (CA INDEX NAME)



RN 848572-23-6 HCAPLUS

CN Iridium, [μ-[[[(3,7-dibromo-2,8-dibenzofurandiyl)bis(oxy)]bis[2,4-nonanedionato-κO,κO']](2-)]tetrakis[5-octyl-2-(2-pyridinyl-κN)phenyl-κC]di-(9CI) (CA INDEX NAME)

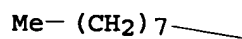
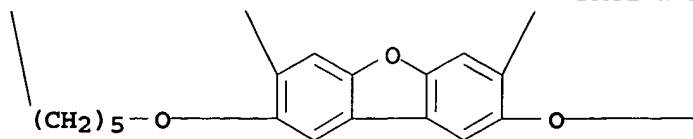
PAGE 1-A



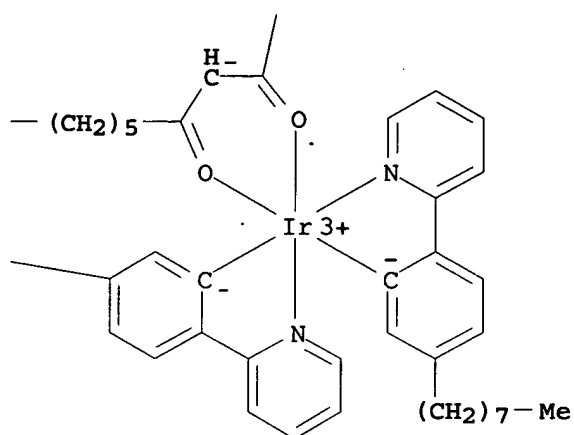
PAGE 1-B

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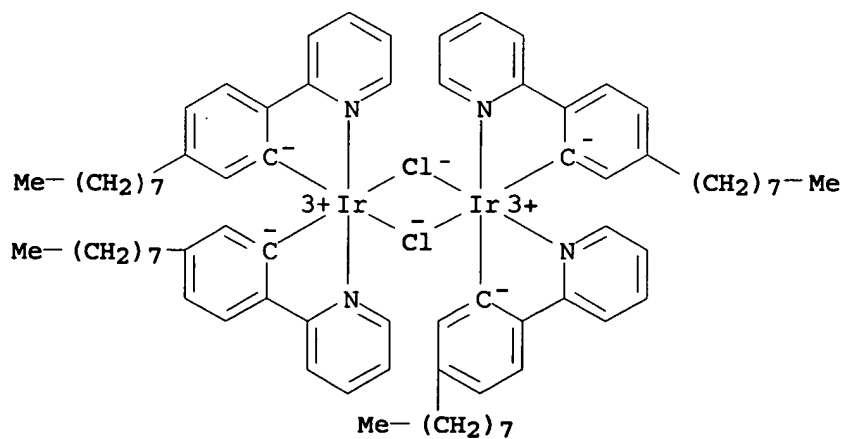
PAGE 2-A



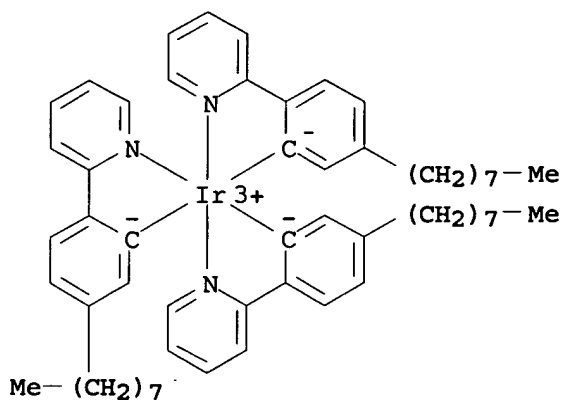
PAGE 2-B



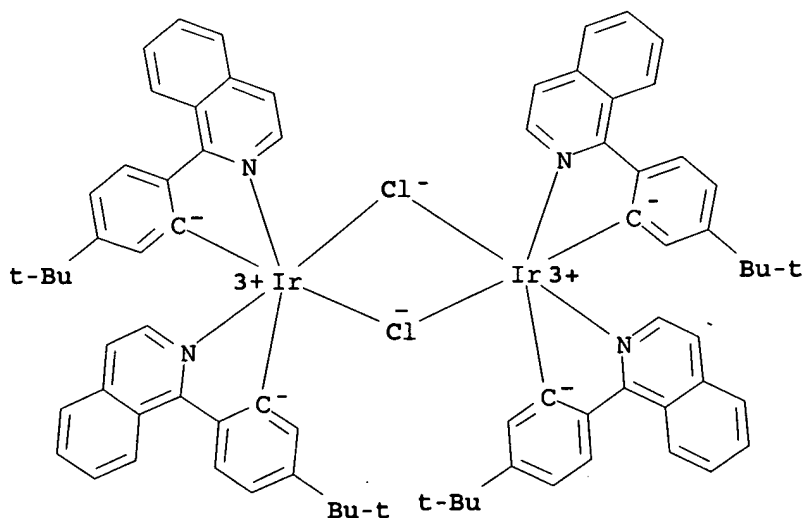
IT 848464-89-1 848572-19-0
 (preparation of polymer complex compound for polymeric
 luminescent element)
 RN 848464-89-1 HCAPLUS
 CN Iridium, di- μ -chlorotetrakis[5-octyl-2-(2-pyridinyl- κ N)phenyl- κ C]di- (9CI) (CA INDEX NAME)



RN 848572-19-0 HCAPLUS
 CN Iridium, tris[5-octyl-2-(2-pyridinyl-κN)phenyl-κC]-(9CI) (CA INDEX NAME)



IT 435294-70-5P
 (preparation of polymer complex compound for polymeric
 luminescent element)
 RN 435294-70-5 HCAPLUS
 CN Iridium, di-μ-chlorotetrakis[5-(1,1-dimethylethyl)-2-(1-
 isoquinolinyl-κN)phenyl-κC]di- (9CI) (CA INDEX NAME)



IC ICM C08G061-12
 ICS C09K011-06; G02F001-1335
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 35, 38, 73
 ST polymer complex compd polymeric luminescent element liq
 crystal display
 IT Liquid crystal displays
 Optical imaging devices
 (polymer Ir complex compound for polymeric luminescent

element)
 IT Luminescent substances
 (polymer; polymer Ir complex compound for polymeric
 luminescent element)
 IT 58429-83-7P 525598-48-5P 848572-13-4P
 848572-15-6DP, polymer 848572-17-8P
 848572-21-4P 848572-23-6P
 (preparation of polymer complex compound for polymeric
 luminescent element)
 IT 99-90-1 1295-35-8D, Bis(1,5-cyclooctadiene) nickel, polymer with
 iridium complex 10025-83-9, Iridium chloride 19493-44-8
 179998-83-5, 5-Bromo-2-(4-octylphenyl)pyridine 848464-89-1
 848568-51-4 848568-52-5 848568-53-6 848572-19-0
 (preparation of polymer complex compound for polymeric
 luminescent element)
 IT 366-18-7DP, 2,2'-Bipyridyl, polymer with iridium complex
 435294-70-5P 599212-92-7DP, polymer with iridium complex
 (preparation of polymer complex compound for polymeric
 luminescent element)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L33 ANSWER 6 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:51035 HCAPLUS

DOCUMENT NUMBER: 142:165272

TITLE: Block copolymers for organic
 electroluminescent (EL) device and its
 display, illumination, and light source

INVENTOR(S): Kawakami, Akira; Kita, Hiroshi; Ogino, Kenji

PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 56 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

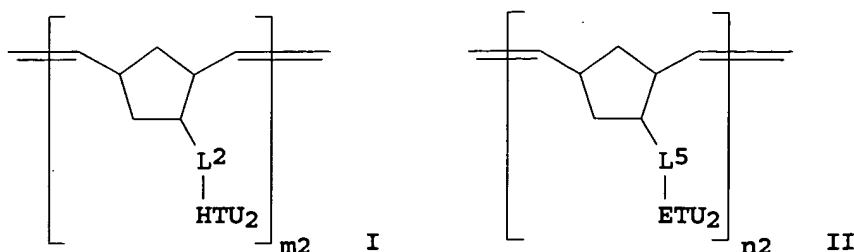
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005015508	A2	20050120	JP 2003-177859	2003 0623

PRIORITY APPLN. INFO.: JP 2003-177859

2003
0623

GI



AB The block copolymers comprise (A) block components of repeating units having hole-transporting units (HTU), (B) block components of repeating units having electron-transporting units (ETU), and (C) repeating units having phosphorescent units. Preferably, the block A is represented by the general formula $[CHR1CR2(L1HTU1)]_{m1}$, I, or $[O(CR3R4)l1CR5(L3HTU3)]_{m3}$ (HTU1-HTU3 = hole-transporting moiety; R1-R5 = H, substituent; L1-L3 = linking group, bond; $m \geq 3$ integer; $l1 = 1, 2, 3$) and the block B is represented by the general formula $[CHR6CR7(L4ETU1)]_{n1}$, II, or $[O(CR8R9)l2CR10(L6ETU3)]_{n3}$ (ETU1-ETU3 = electron-transporting moiety; R6-R10 = H, substituent; L4-L6 = linking group, bond; $n1-n3 \geq 3$ integer; $l2 = 1, 2, 3$). Preferably, the HTU comprise triphenylamine units and the ETU have F or F-containing substituents. Preferably, the surface free energy of the monomer forming HTU-containing repeating units is larger than that of the monomers of the ETU-containing repeating units and these monomers are incompatible to each other. Preferably, the block copolymers are prepared by atom.-transfer radical polymerization. Preferably, ≥ 1 of the block A contains hydrolyzable silyl groups, more preferably, trialkoxysilyl groups, and also contains dialkylamino groups. The organic EL device contains the A-B-C block copolymers in ≥ 1 of the organic layers provided between a cathode and an anode. In another alternative, the organic EL device contains A-B block copolymers and phosphorescent compds. The organic EL device has high emission efficiency, long service life, and high productivity.

IT 830318-16-6P 830318-20-2P

(block copolymers for organic EL device for display, illumination, and light source)

RN 830318-16-6 HCAPLUS

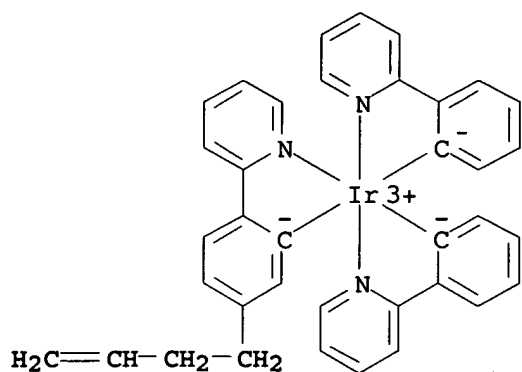
CN Iridium, [5-(3-butenyl)-2-(2-pyridinyl- κ N)phenyl- κ C]bis[2-(2-pyridinyl- κ N)phenyl- κ C]-, polymer with 3-[3,5-bis(trifluoromethyl)phenyl]-4-(4-ethenylphenyl)-5-(1-naphthalenyl)-4H-1,2,4-triazole, N-[4'-[(4-ethenyl-1-naphthalenyl)phenylamino][1,1'-biphenyl]-4-yl]-N',N'-diethyl-N-phenyl-1,4-naphthalenediamine and 9-(4-ethenylphenyl)-9H-carbazole, block (9CI) (CA INDEX NAME)

CM 1

CRN 830318-15-5

CMF C37 H30 Ir N3

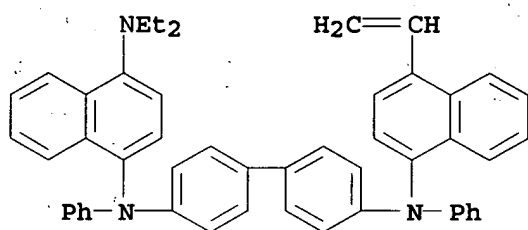
CCI CCS



CM 2

CRN 828940-14-3

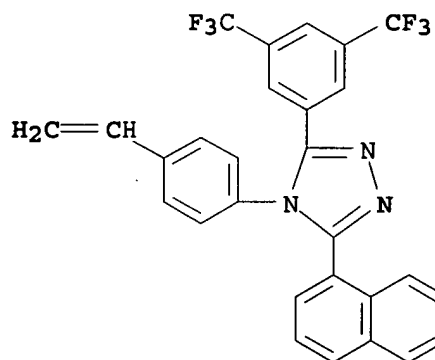
CMF C50 H43 N3



CM 3

CRN 828940-05-2

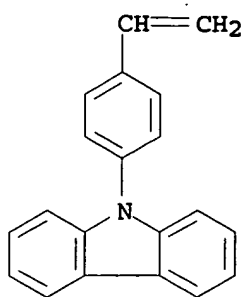
CMF C28 H17 F6 N3



CM 4

CRN 52913-19-6

CMF C20 H15 N



RN 830318-20-2 HCAPLUS

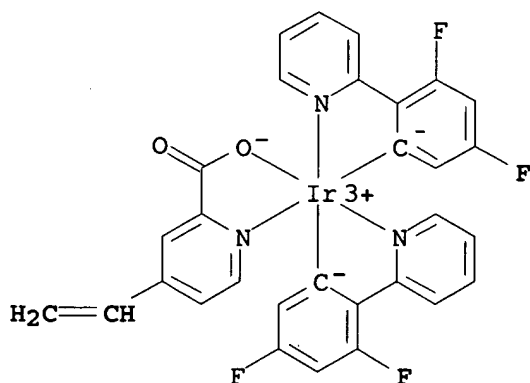
CN Iridium, bis[3,5-difluoro-2-(2-pyridinyl-κN)phenyl-κC][4-ethenyl-2-pyridinecarboxylato-κN1,κO2]-, polymer with 3-[3,5-bis(trifluoromethyl)phenyl]-4-(4-ethenylphenyl)-5-(1-naphthalenyl)-4H-1,2,4-triazole, [5-(3-butenyl)-2-(2-pyridinyl-κN)phenyl-κC]bis[2-(2-pyridinyl-κN)phenyl-κC]iridium, N-[4'-[(4-ethenyl-1-naphthalenyl)phenylamino][1,1'-biphenyl]-4-yl]-N',N'-diethyl-N-phenyl-1,4-naphthalenediamine, 9-(4-ethenylphenyl)-9H-carbazole and (2-propenoato-κO,κO')bis[2-(2-pyridinyl-κN)benzo[b]thien-3-yl-κC]iridium, block (9CI) (CA INDEX NAME)

CM 1

CRN 830318-19-9

CMF C30 H18 F4 Ir N3 O2

CCI CCS

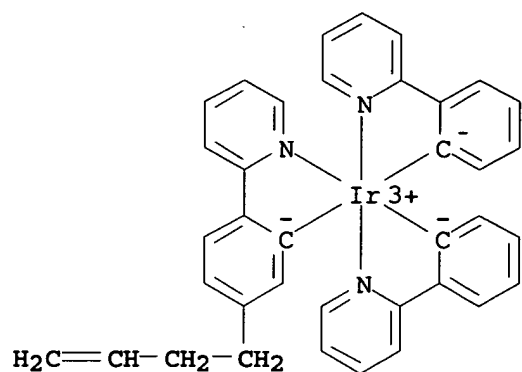


CM 2

CRN 830318-15-5

CMF C37 H30 Ir N3

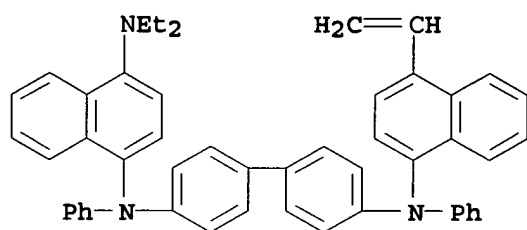
CCI CCS



CM 3

CRN 828940-14-3

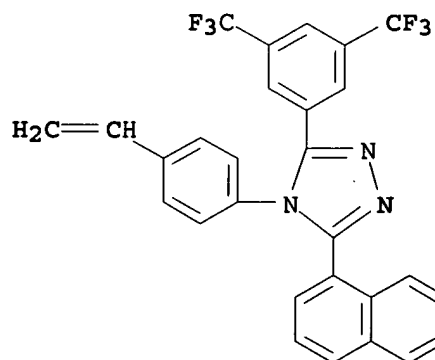
CMF C50 H43 N3



CM 4

CRN 828940-05-2

CMF C28 H17 F6 N3



CM 5

CRN 805236-96-8

CMF C29 H19 Ir N2 O2 S2

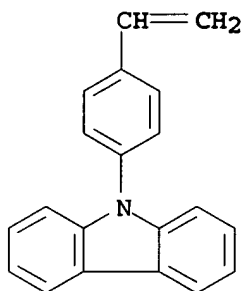
CCI CCS

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 6

CRN 52913-19-6

CMF C20 H15 N

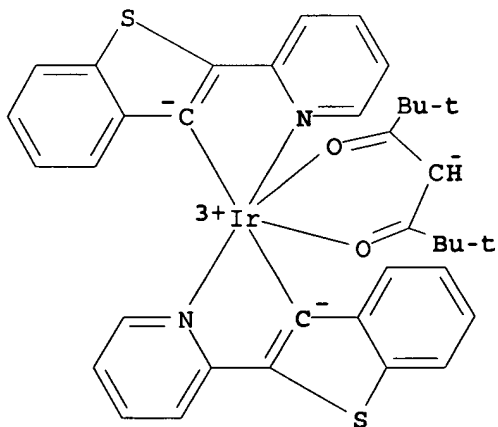


IT 344796-22-1

(phosphor; block copolymers for organic EL device for display, illumination, and light source)

RN 344796-22-1 HCAPLUS

CN Iridium, bis[2-(2-pyridinyl- κ N)benzo[b]thien-3-yl- κ C](2,2,6,6-tetramethyl-3,5-heptanedionato- κ O, κ O')-, (OC-6-33)- (9CI) (CA INDEX NAME)



IC ICM C08F297-00

ICS C08G065-02; C09K011-06; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 74

ST hole transporting unit block copolymer electroluminescent device; electron transporting unit block copolymer electroluminescent device; phosphorescent unit block copolymer electroluminescent device; light source org electroluminescent device; illumination org electroluminescent device; org electroluminescent display block copolymer

IT Electroluminescent devices
(displays; block copolymers for organic EL device for display,
illumination, and light source)

IT Luminescent screens
(electroluminescent; block copolymers for organic EL
device for display, illumination, and light source)

IT Light
(fluorescent; block copolymers for organic EL device for
display, illumination, and light source)

IT Electroluminescent devices
(organic; block copolymers for organic EL device for display,
illumination, and light source)

IT 828940-06-3P 830318-16-6P 830318-18-8P
830318-20-2P 830318-21-3P 830318-22-4P 830318-25-7P
830318-26-8P 830318-27-9P 830318-28-0P 830318-29-1P
(block copolymers for organic EL device for display,
illumination, and light source)

IT 94928-86-6 344796-22-1 344796-24-3 376367-93-0
(phosphor; block copolymers for organic EL device for
display, illumination, and light source)

L33 - ANSWER 7 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:1121203 HCAPLUS

DOCUMENT NUMBER: 143:275047

TITLE: White electrophosphorescence from
semiconducting polymer blends

AUTHOR(S): Gong, Xiong; Moses, Daniel; Heeger, Alan J.

CORPORATE SOURCE: Institute for Polymers and Organic Solids,
Univ. of California, Santa Barbara, Santa
Barbara, CA, 93106, USA

SOURCE: Proceedings of SPIE-The International Society
for Optical Engineering (2004), 5519(Organic
Light-Emitting Materials and Devices VIII),
82-88

CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical
Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

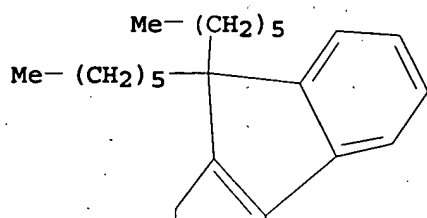
AB White emission from polymer light-emitting
diodes (PLEDs) is demonstrated by spin-casting polymer blends from
solution containing poly(9,9-dioctylfluorenyl-2,7-diyl) (PFO) and tris
(2,5-bis-2'-(9',9'-dihexylfluorene) pyridine) iridium (III),
Ir(HFP)3. The white electrophosphorescence PLEDs exhibit
luminance of 1.2×10^4 cd/m² at 17 V and luminous
efficiency of 4.3 cd/A at c.d. of 5.2 mA/cm². Because a single
semiconducting polymer, PFO, was used as the common host for red,
green and blue emission, the color coordinates, the color temps.
and the color rendering indexes of the white emission are
insensitive to the brightness, applied voltage and applied c.d.

IT 446017-50-1
(white electrophosphorescence from semiconducting polymer
blends containing)

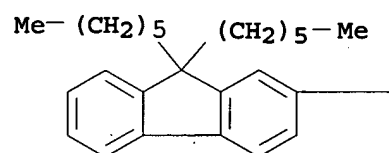
RN 446017-50-1 HCAPLUS

CN Iridium, tris[2-[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-pyridinyl-
κN]-9,9-dihexyl-9H-fluoren-3-yl-κC]- (9CI) (CA INDEX
NAME)

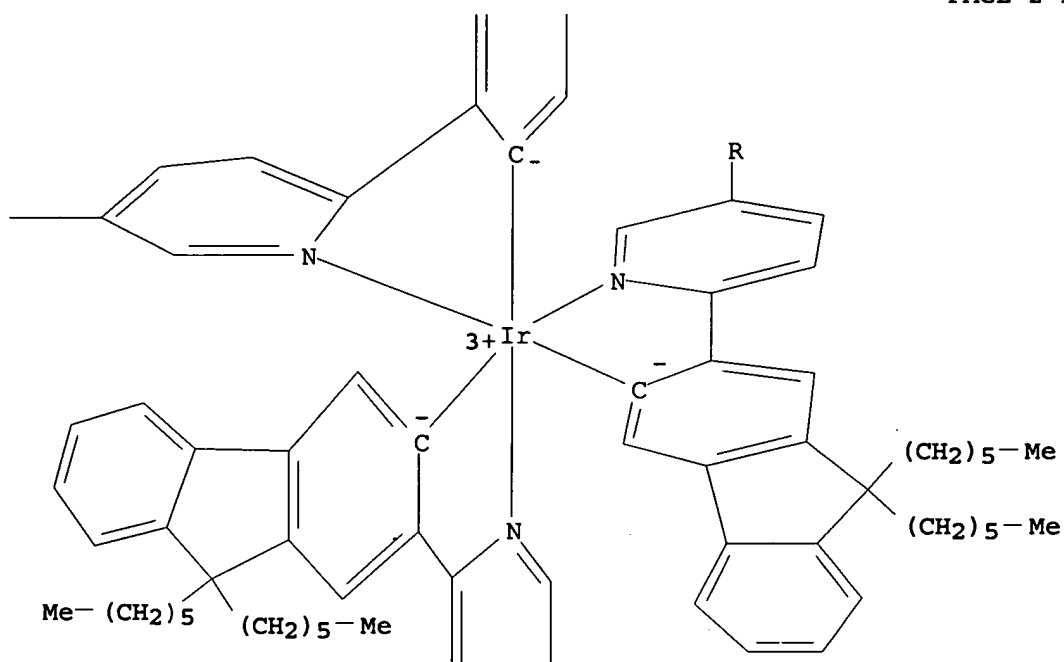
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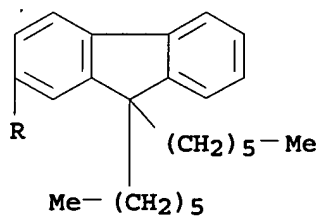
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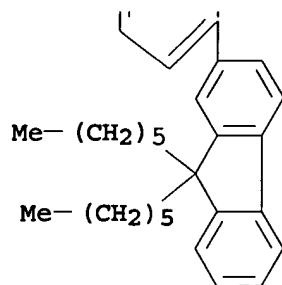
PAGE 2-B



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PAGE 3-B



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 36, 38, 76

ST electrophosphorescence white semiconducting polymer blend;
phosphorescence electro white semiconducting polymer blend

IT **Phosphorescence**
(electro-, white; from semiconducting polymer blends)

IT **Luminescence, electroluminescence**
(white; from semiconducting polymer blends)

IT **Electroluminescent devices**
(white; with semiconducting polymer blends)

IT 50926-11-9, ITO 123864-00-6 155090-83-8, PEDOT-PSS
446017-50-1

(white electrophosphorescence from semiconducting polymer blends containing)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L33 ANSWER 8 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:906055 HCAPLUS

DOCUMENT NUMBER: 141:386160

TITLE: Crosslinkable materials for organic
light emitting devices and
methods

INVENTOR(S): Kelly, Stephen M.; O'Neill, Maryl; Aldred,
Matthew P.; Vlachos, Panagiotis; Koch, Gene C.

PATENT ASSIGNEE(S): ZLX Techno, Ltd., USA

SOURCE: PCT Int. Appl., 84 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004093154	A2	20041028	WO 2004-US9276	2004 0409
WO 2004093154	A3	20050203		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,				

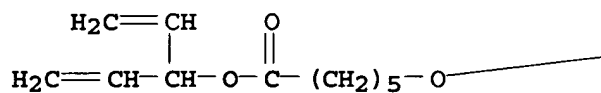
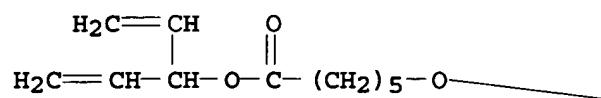
2004
0409

2003
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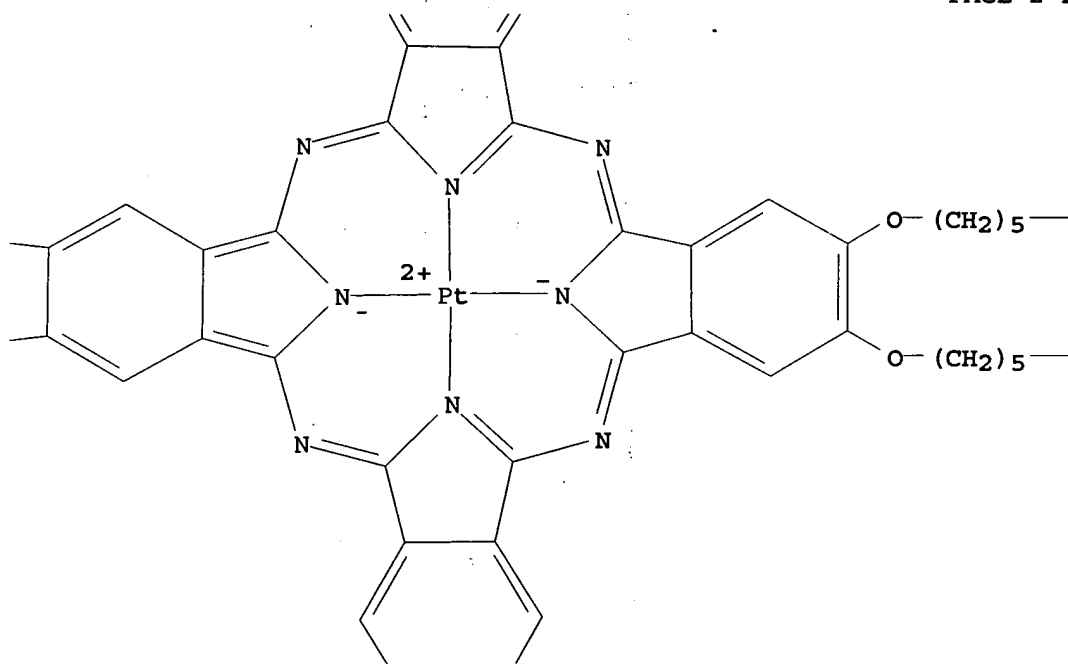
IT 783305-53-3 783305-54-4 783305-56-6
 783305-57-7 783305-59-9 783305-60-2
 (diene-substituted polymerizable charge-transporting and
 light-emitting materials and polymers
 produced and production by photopolymer. and use of polymers)
RN 783305-53-3 HCAPLUS
CN Platinum, [[octakis(1-ethenyl-2-propenyl)
 6,6',6'',6''',6'''',6''''',6''''',6''''''-(29H,31H-
 phthalocyanine-2,3,9,10,16,17,23,24-octayl-
 κN29,κN30,κN31,κN32) octakis(oxy)] octakis[h
 exanoato]](2)-, (SP-4-1)-, homopolymer (9CI) (CA INDEX NAME)

CRN 783305-44-2
CMF C120 H144 N8 O24 Pt
CCI CCS

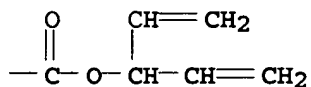
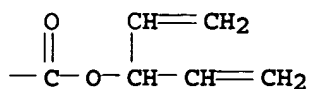
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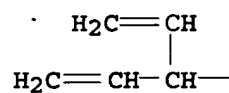
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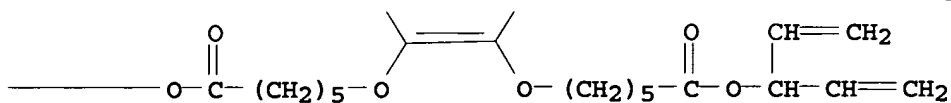
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PAGE 3-B

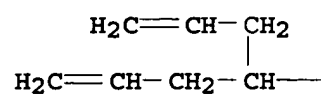


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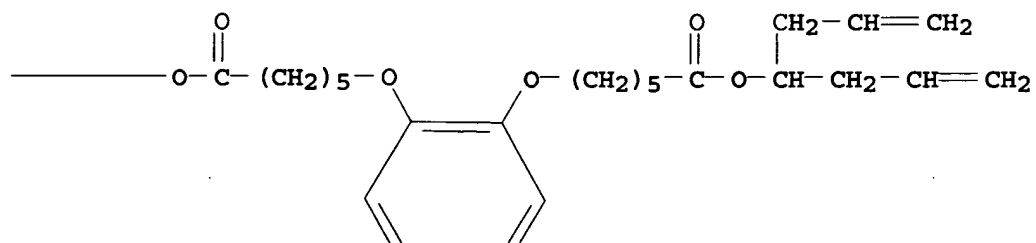
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CMF C136 H176 N8 O24 Pt
CCI CCS

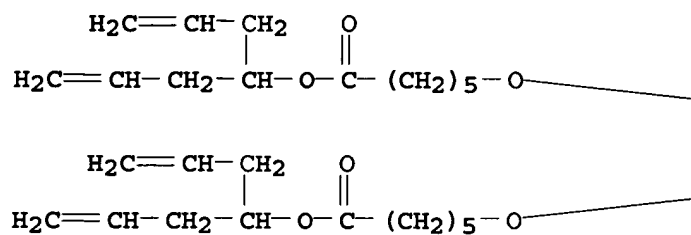
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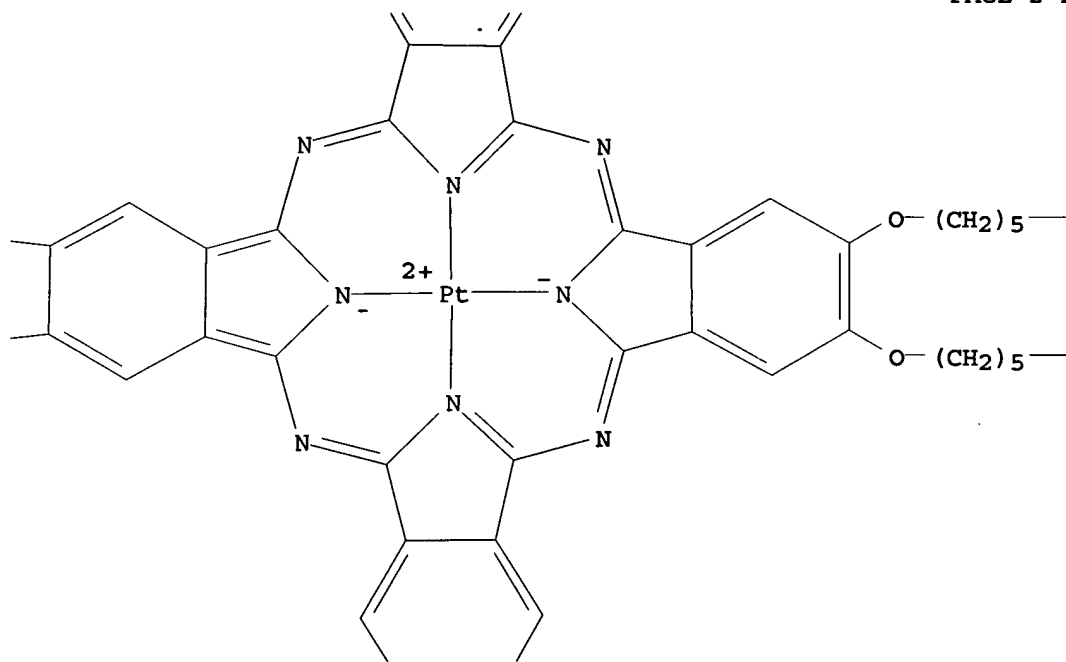
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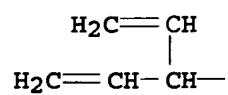
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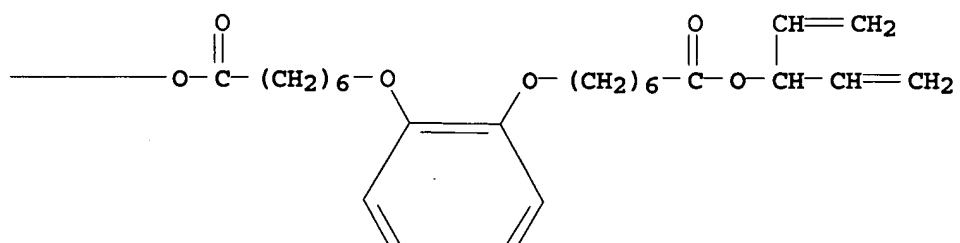
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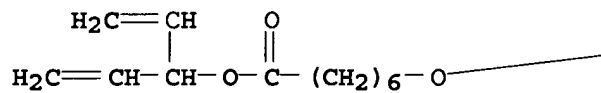
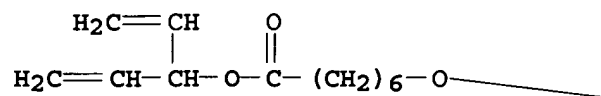
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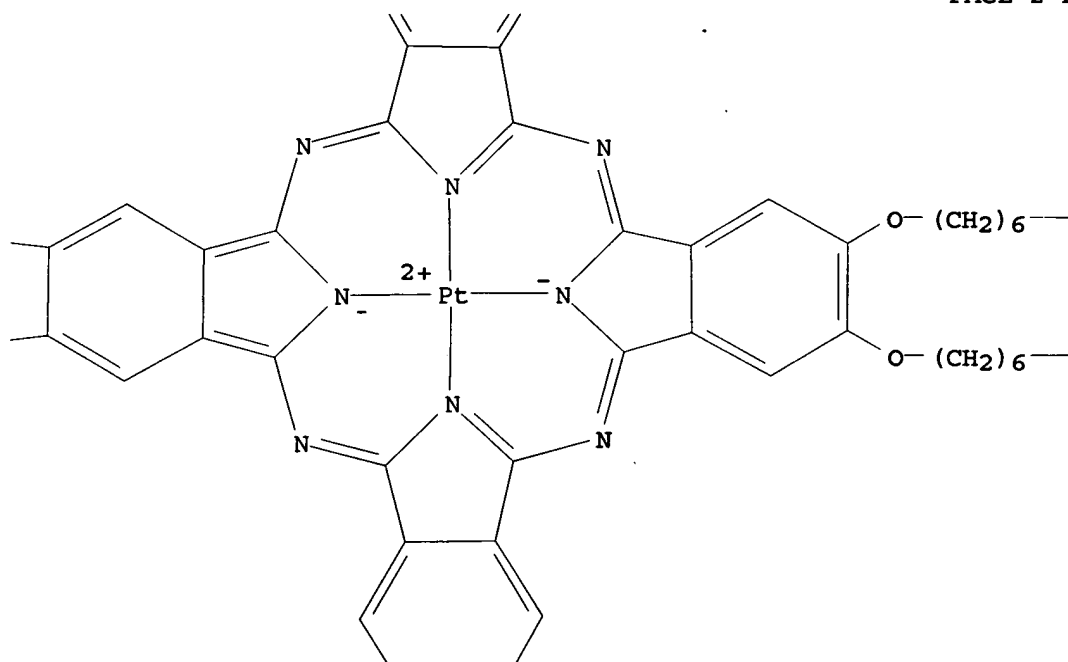
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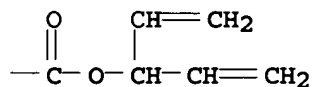
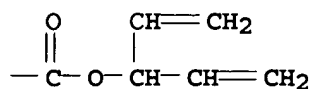
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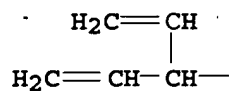
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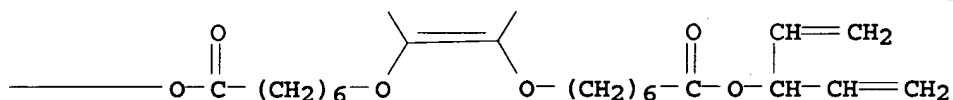
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RN	783305-57-7 HCAPLUS
CN	Platinum, [[octakis[1-(2-propenyl)-3-butenyl] 7,7',7'',7''',7'''',7''''',7''''',7''''',7''''',7''''']-(29H,31H- phthalocyanine-2,3,9,10,16,17,23,24-octayl- κN29,κN30,κN31,κN32)octakis(oxy)]octakis[h eptanoato]](2-)]-, (SP-4-1)-, homopolymer (9CI) (CA INDEX NAME)

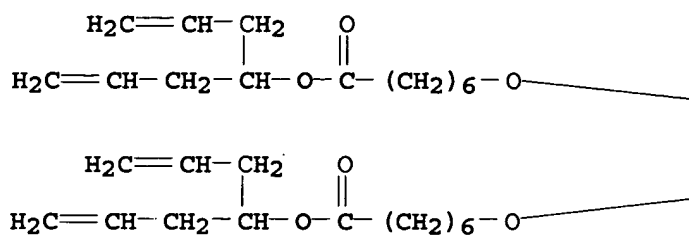
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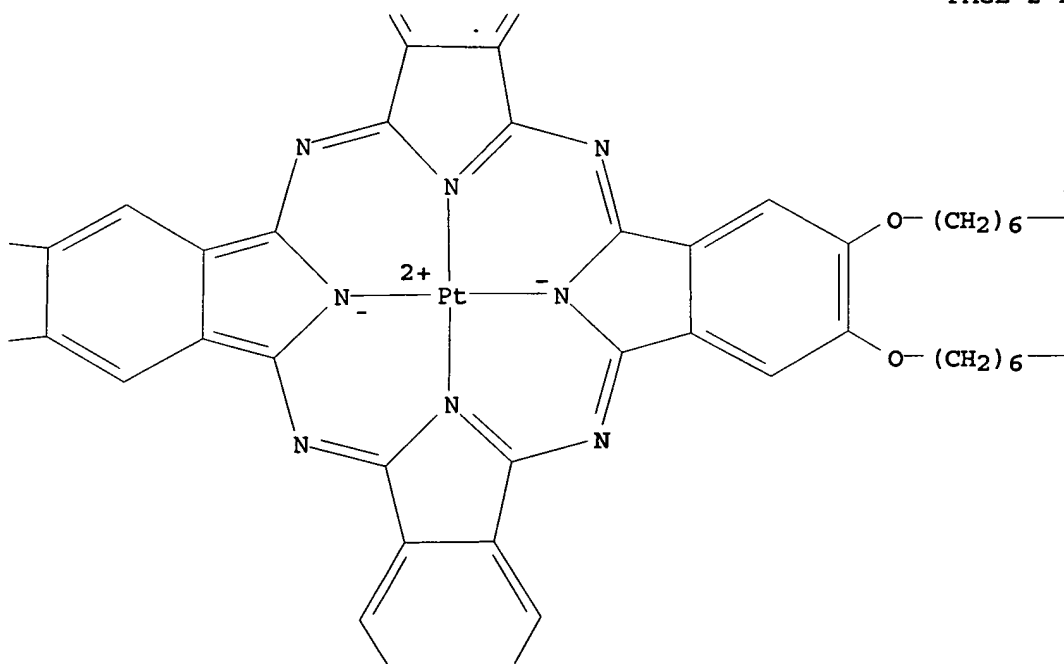
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CCI CCS

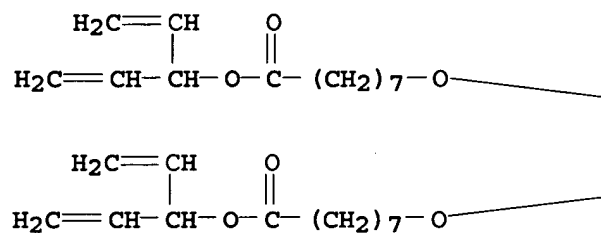
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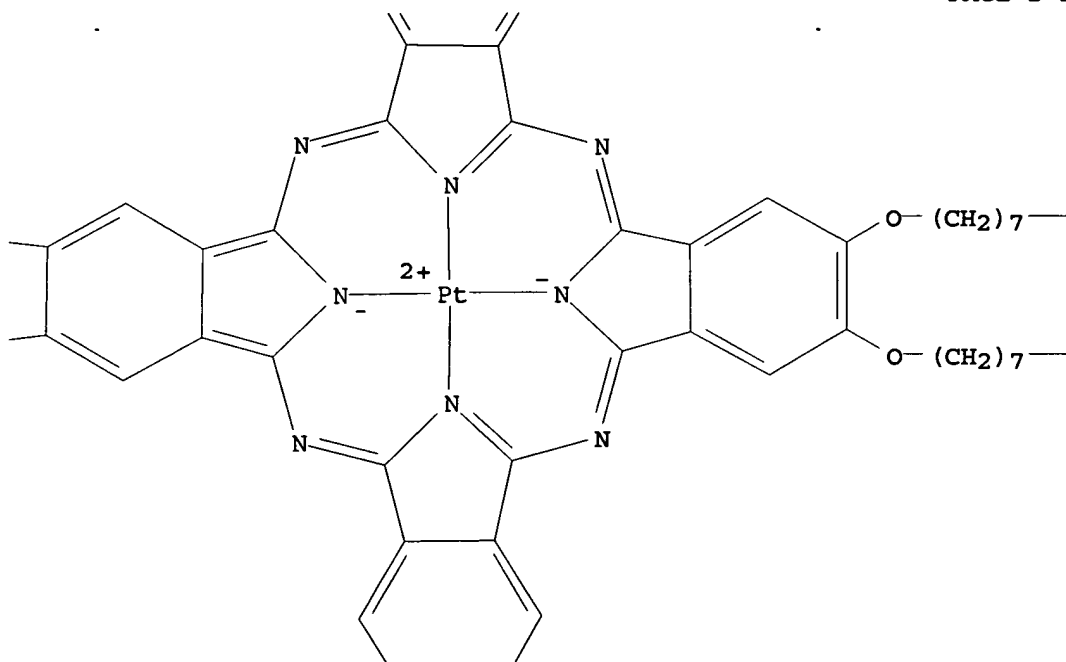
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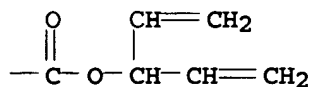
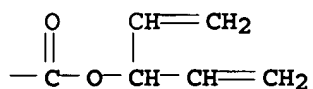
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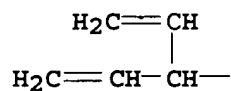
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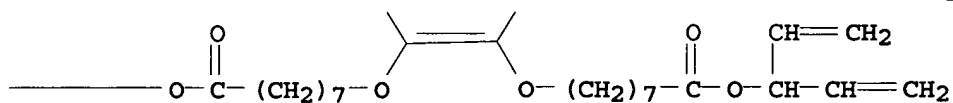
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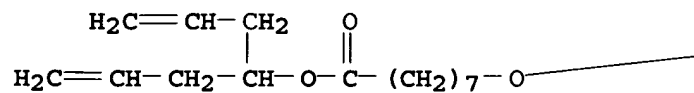
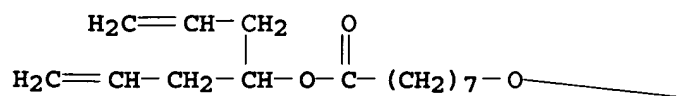


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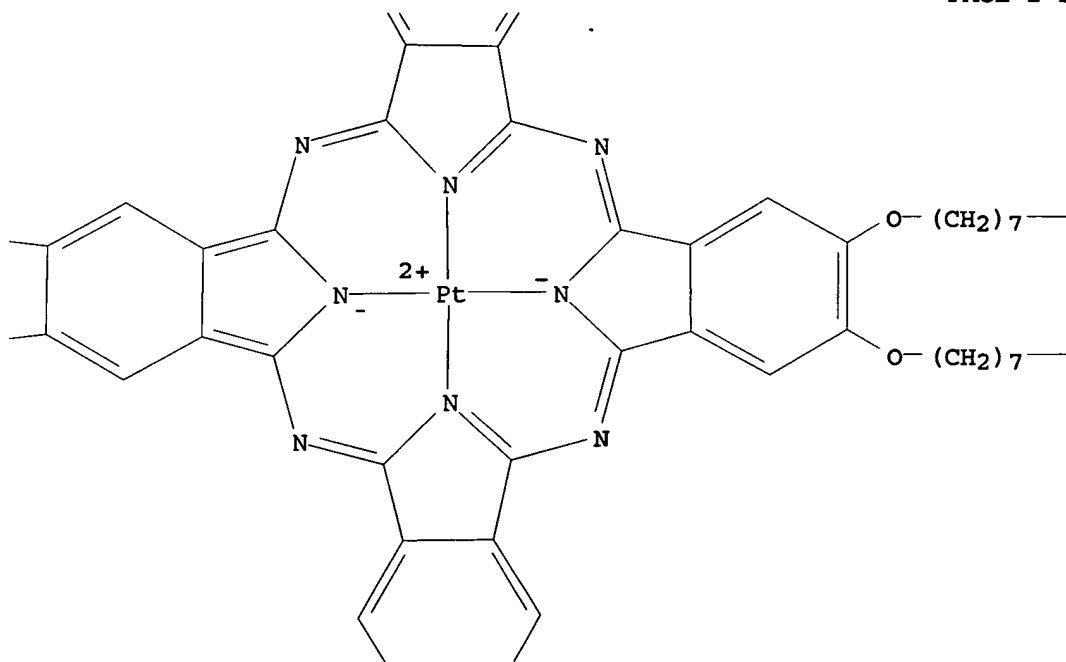
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CRN 783305-51-1
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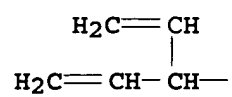
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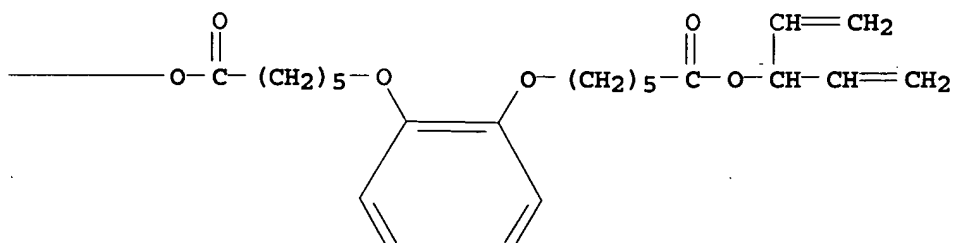
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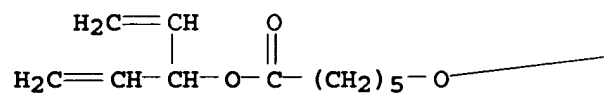
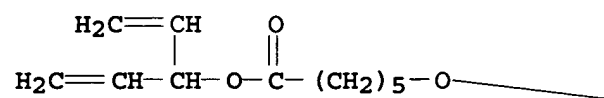
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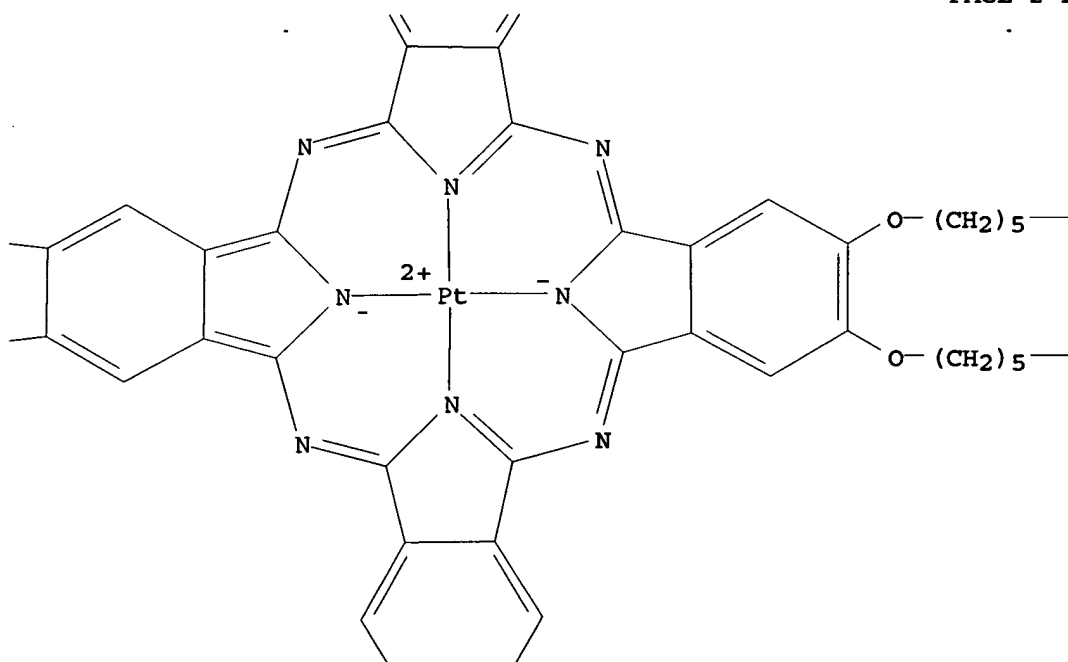
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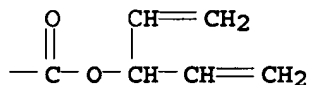
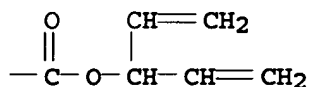
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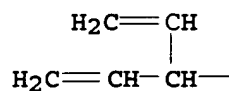
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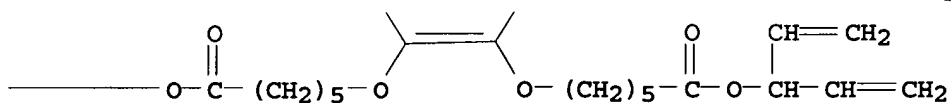
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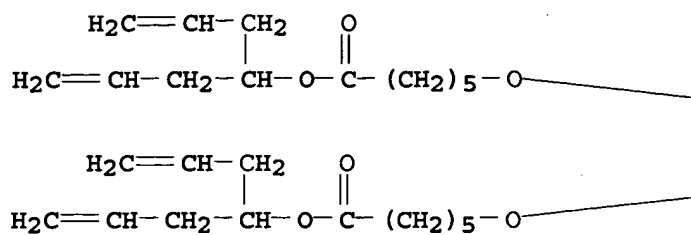


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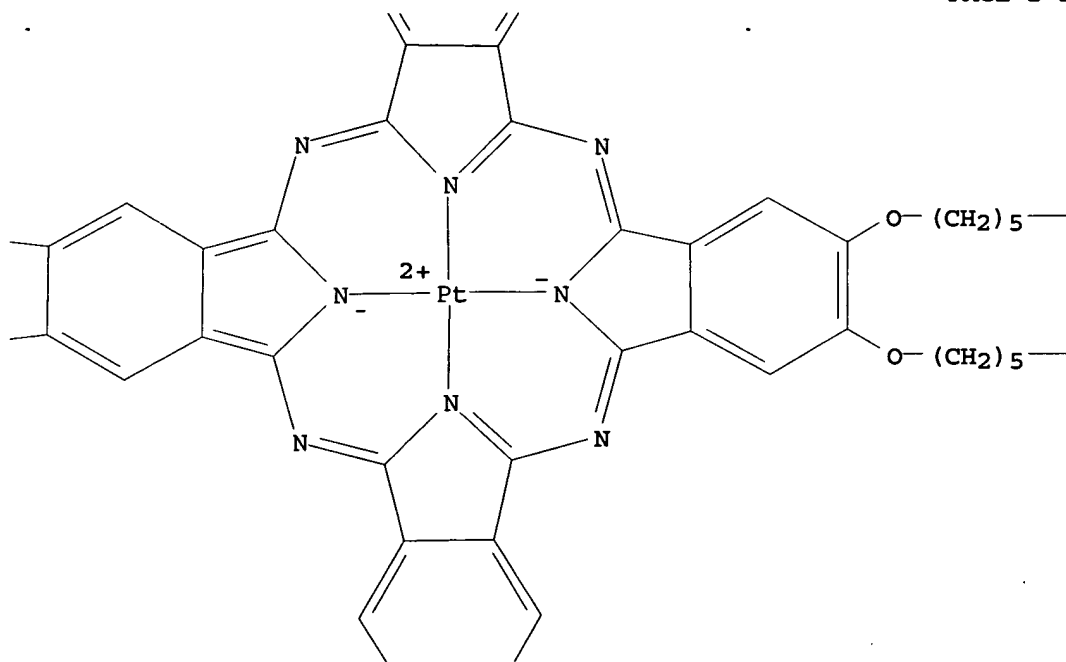
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CN      Platinum, [[octakis[1-(2-propenyl)-3-butenyl]
        6,6',6'',6''',6'''',6'''''',6'''''''',6'''''''''',6'''''''''''-(29H,31H-
        phthalocyanine-2,3,9,10,16,17,23,24-octayl-
        κN29,κN30,κN31,κN32)octakis(oxy)]octakis[h
        exanoato]](2-)]-, (SP-4-1)-(9CI) (CA INDEX NAME)

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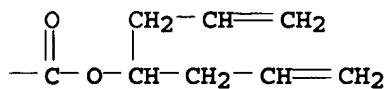
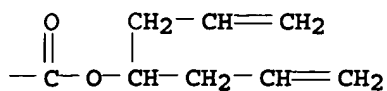

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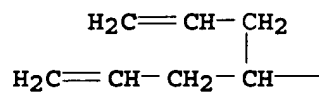
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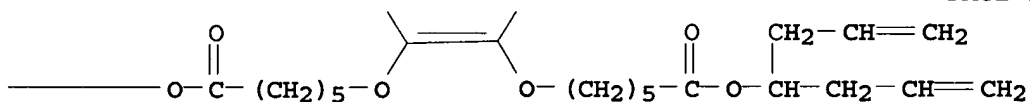
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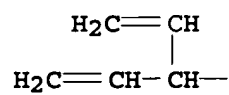
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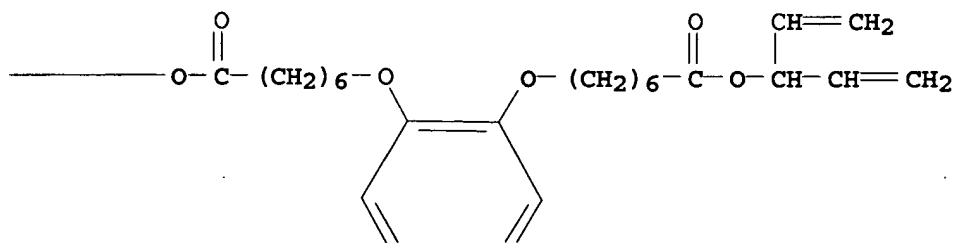
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phthalocyanine-2,3,9,10,16,17,23,24-octayl-
κN29,κN30,κN31,κN32] octakis(oxy)] octakis[h
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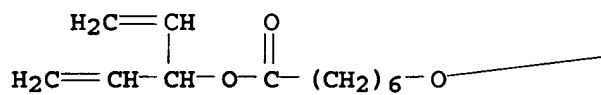
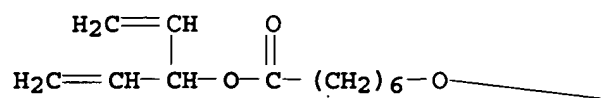
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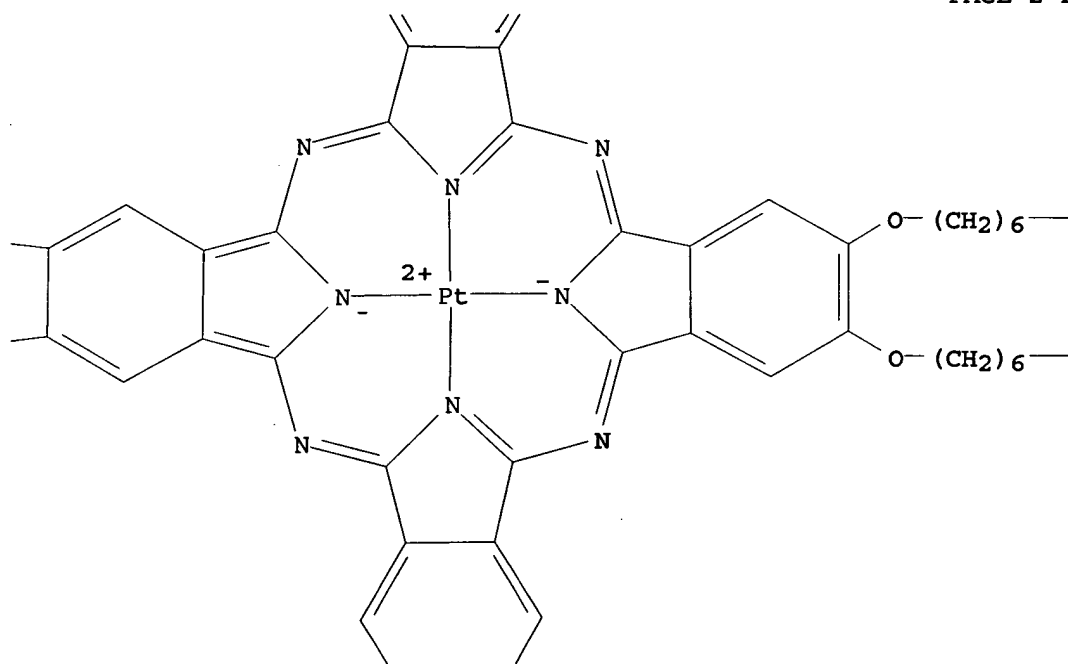
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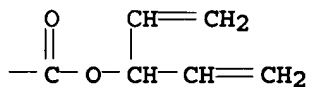
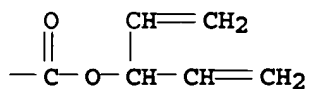
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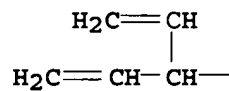
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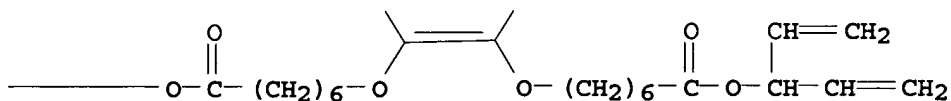
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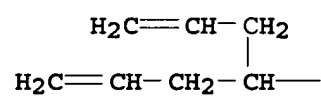
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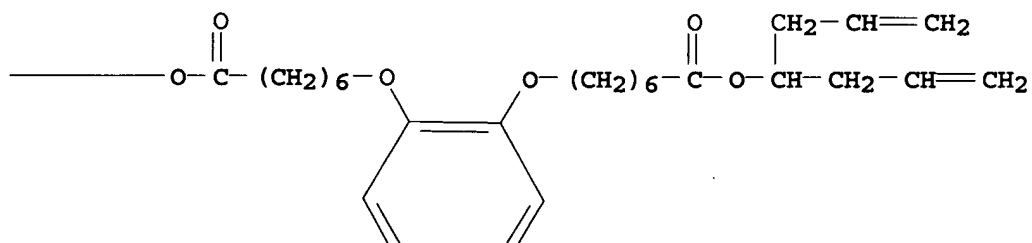
RN 783305-48-6 HCAPLUS

CN Platinum, [[octakis[1-(2-propenyl)-3-butenyl]
7,7',7'',7''',7''',7''',7''',7''',7''',7''']-(29H,31H-
phthalocyanine-2,3,9,10,16,17,23,24-octayl-
κN29,κN30,κN31,κN32)octakis(oxy)]octakis[h
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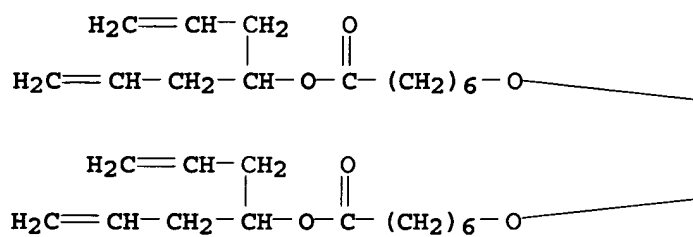
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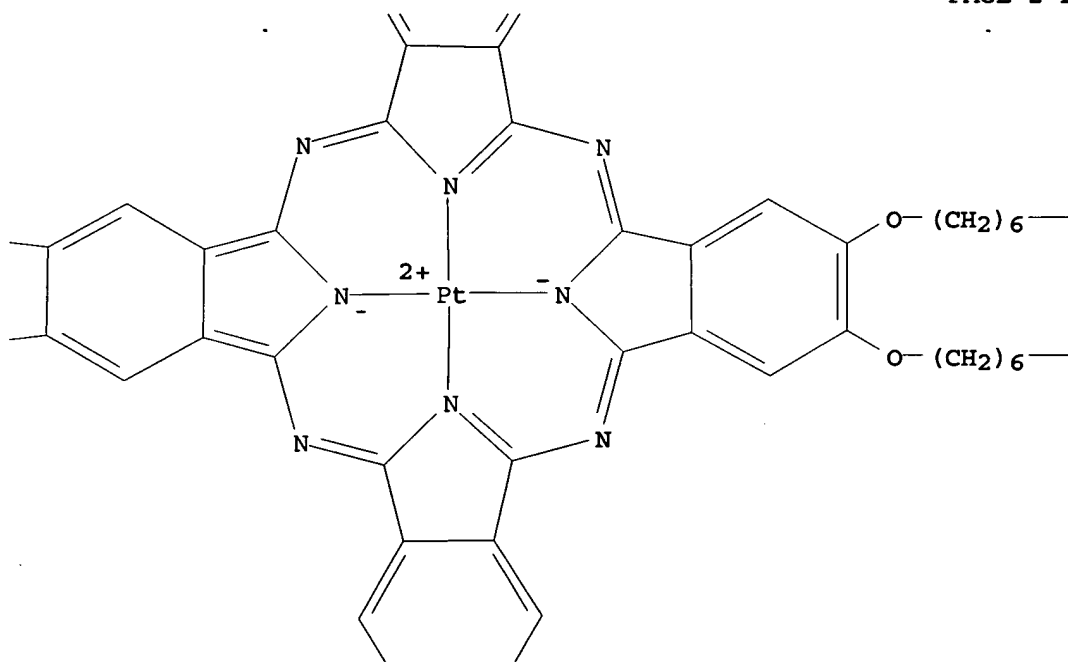
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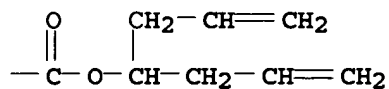
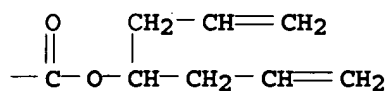
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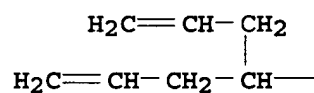
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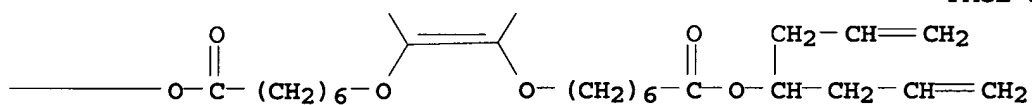
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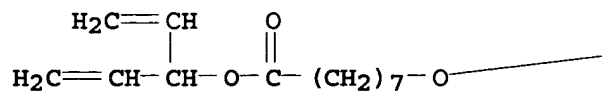
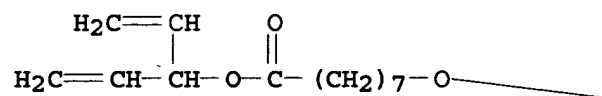


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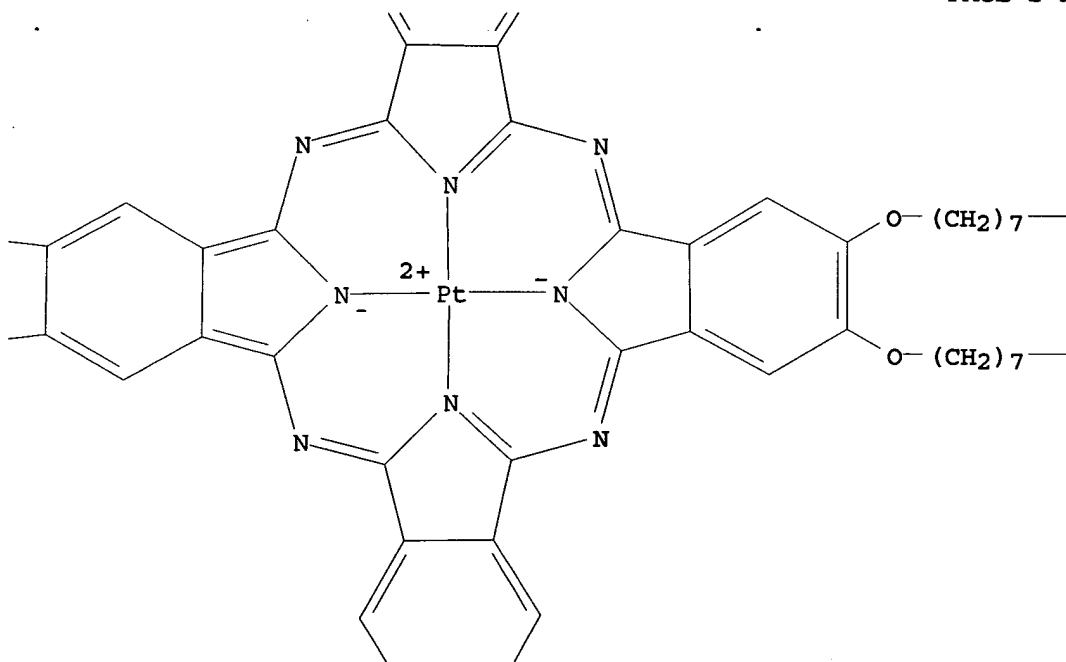
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      phthalocyanine-2,3,9,10,16,17,23,24-octayl-
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      ctanoato]](2-)]-, (SP-4-1)-(9CI) (CA INDEX NAME)

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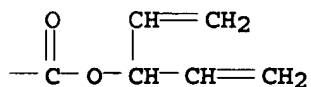
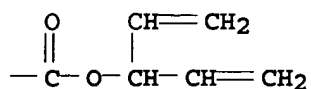

PAGE 2-A



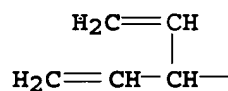
PAGE 2-B



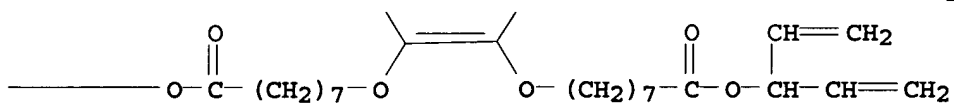
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PAGE 3-A



PAGE 3-B

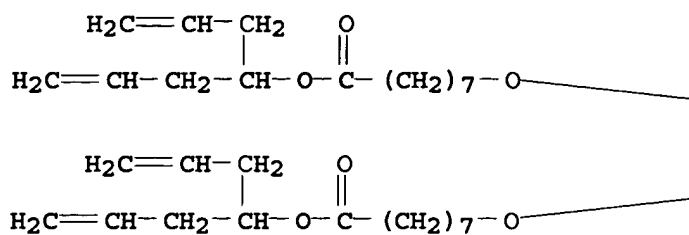


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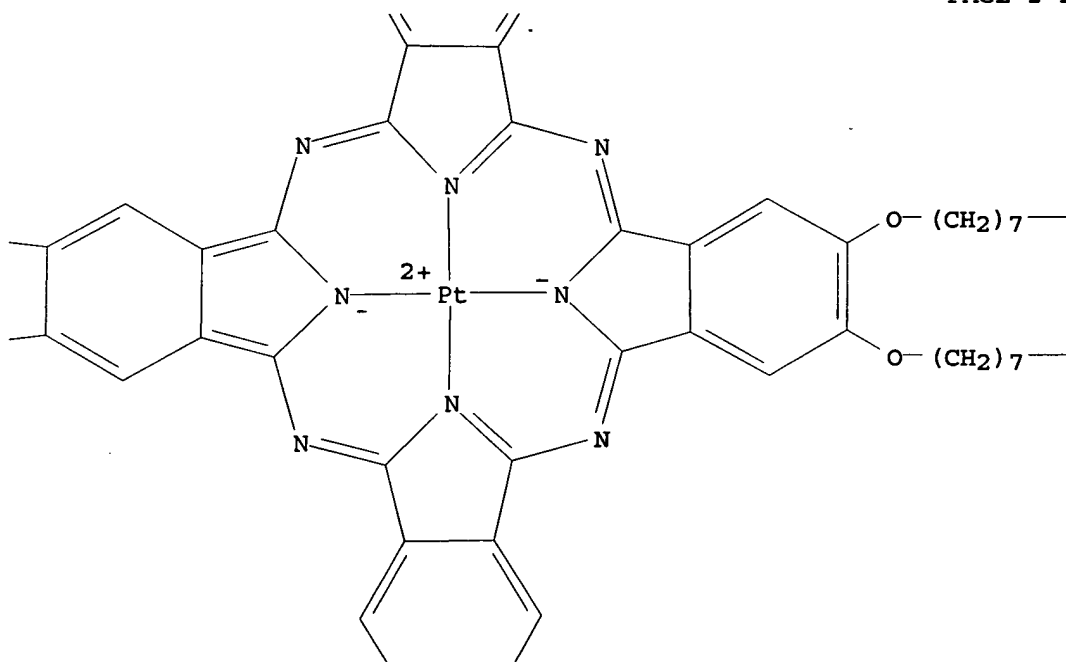
RN      783305-51-1   HCAPLUS
CN      Platinum, [[octakis[1-(2-propenyl)-3-butenyl]
      8,8',8'',8''',8'''',8'''''',8'''''''',8''''''''',8'''''''''',8''''''''''-[(29H,31H-
      phthalocyanine-2,3,9,10,16,17,23,24-octayl-
      κN29,κN30,κN31,κN32)octakis(oxy)]octakis[o
      ctanoato]](2-)]-, (SP-4-1)-(9CI) (CA INDEX NAME)

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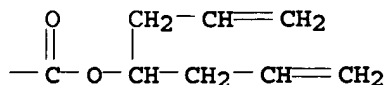
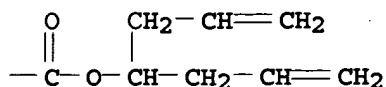

PAGE 2-A



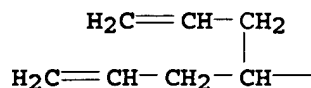
PAGE 2-B



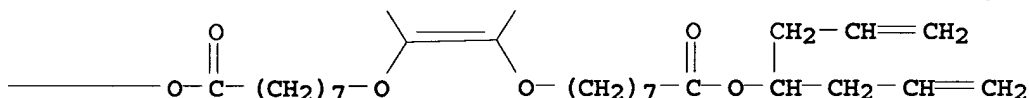
PAGE 2-C



PAGE 3-A



PAGE 3-B



- IC ICM H01L
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38, 74, 76
 ST diene substituted polymerizable charge transporting light emitting material; electroluminescent device
 diene substituted polymerizable material; photopolymn charge transporting light emitting material prodn
 IT **Electroluminescent devices**
 Photoelectric devices
 Semiconductor devices
 Semiconductor lasers
 (diene-substituted polymerizable charge-transporting and light-emitting materials and polymers produced and production by photopolymn. and use of polymers)
 IT **Luminescent substances**
 (electroluminescent; diene-substituted polymerizable charge-transporting and light-emitting materials and polymers produced and production by photopolymn. and use of polymers)
 IT **Polymerization**
 (photopolymn.; diene-substituted polymerizable charge-transporting and light-emitting materials and polymers produced and production by photopolymn. and use of polymers)

IT 782497-35-2 782497-36-3 782497-37-4 782497-38-5
 782497-39-6 782497-40-9 782497-41-0 782497-42-1
 782497-43-2 782497-44-3 782497-45-4 782497-46-5
 782497-47-6 782497-48-7 782497-49-8 782497-50-1
 782497-51-2 782497-52-3 782497-53-4 783305-53-3
 783305-54-4 783305-55-5 783305-56-6
 783305-57-7 783305-58-8 783305-59-9
 783305-60-2 783305-61-3

(diene-substituted polymerizable charge-transporting and
 light-emitting materials and polymers
 produced and production by photopolymn. and use of polymers)

IT 782497-12-5 782497-13-6 782497-14-7 782497-15-8
 782497-16-9 782497-17-0 782497-18-1 782497-19-2
 782497-20-5 782497-21-6 782497-22-7 782497-23-8
 782497-25-0 782497-27-2 782497-29-4 782497-30-7
 782497-31-8 782497-32-9 782497-33-0 782497-34-1
 783305-44-2 783305-45-3 783305-46-4
 783305-47-5 783305-48-6 783305-49-7
 783305-50-0 783305-51-1 783305-52-2

(diene-substituted polymerizable charge-transporting and
 light-emitting materials and polymers
 produced and production by photopolymn. and use of polymers)

L33 ANSWER 9 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:876470 HCAPLUS

DOCUMENT NUMBER: 141:357811

TITLE: Iridium (III) complexes with
 4-(2-pyridyl)phenyl-terminated poly(p-phenyls)
 and their organic electroluminescent
 devices showing high luminescence
 efficiency

INVENTOR(S): Sakurai, Miya; Yonehara, Yoshitomo; Hara,
 Tomoaki

PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

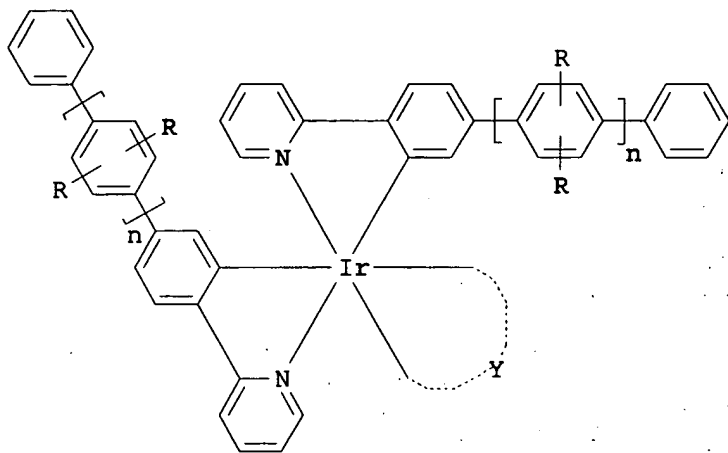
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004292423	A2	20041021	JP 2003-304413	2003 0828
			JP 2002-253602	A 2002 0830
			JP 2002-369719	A 2002 1220
			JP 2003-61478	A 2003 0307

OTHER SOURCE(S): MARPAT 141:357811

GI



I

AB The complexes, useful for emitter layers for organic electroluminescent devices, are I (Y = bidentate ligand; R = H, C1-10 alkoxy; ≥ 1 of R = C1-10 alkoxy; n = 3-8). The I decrease intermol. interaction, achieving emitter layers containing I at high concentration without decrease of luminescent intensity. Furthermore, the I show good solvent solubility, resulting in manufacture of films by wet process.

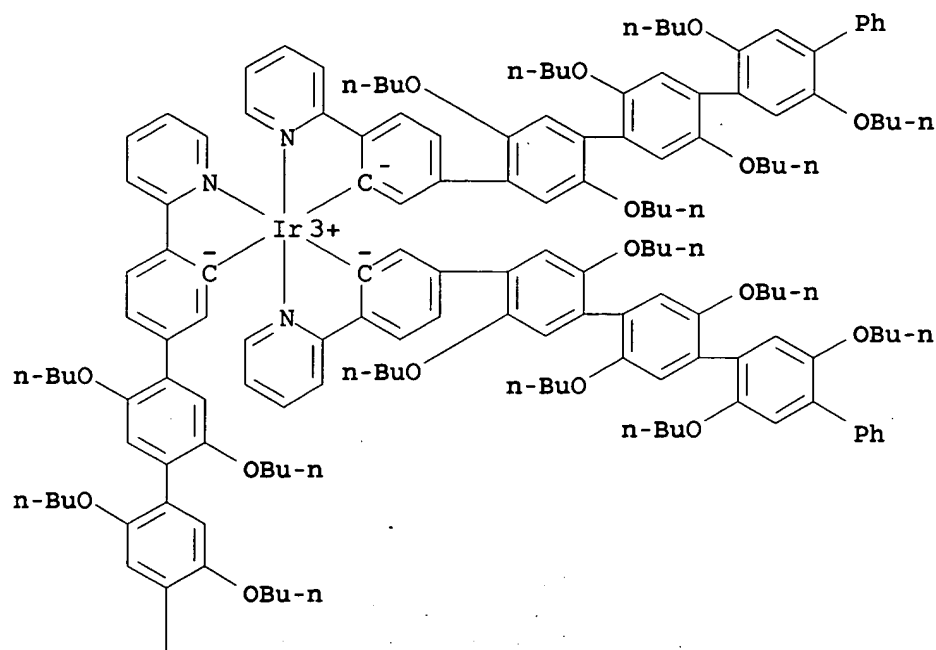
IT 756480-75-8P 756480-76-9P

(manufacture of electroluminescent Ir (III) complexes with pyridylphenyl-terminated poly(p-phenyls) for organic electroluminescent devices)

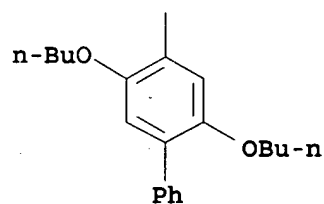
RN 756480-75-8 HCAPLUS

CN Iridium, tris[2',2'',2''',5',5'',5'''-hexabutoxy-4-(2-pyridinyl- κ N) [1,1':4',1'':4'',1''':4''',1''''-quinquephenyl]-3-yl- κ C] - (9CI) (CA INDEX NAME)

PAGE 1-A

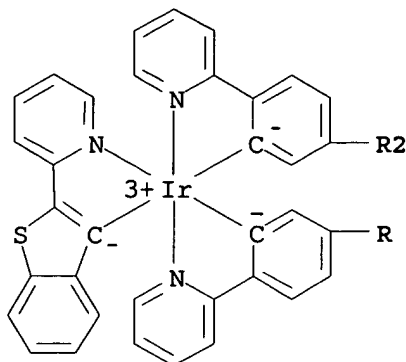


PAGE 2-A

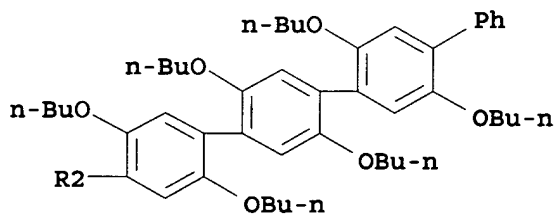
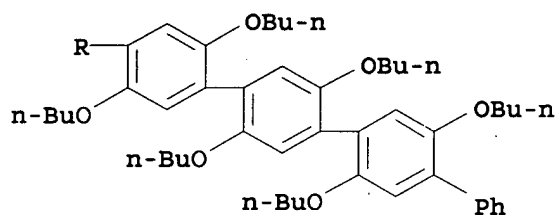


RN 756480-76-9 HCAPLUS
 CN Iridium, bis[2',2'',2''',5',5'',5'''-hexabutoxy-4-(2-pyridinyl- κ N) [1,1':4',1'':4'',1''':4'''-quinquephenyl]-3-yl- κ C] [2-(2-pyridinyl- κ N)benzo[b]thien-3-yl- κ C]-(9CI) (CA INDEX NAME)

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- IC ICM C07F015-00
ICS C09K011-06; H05B033-14
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 29, 35, 38
- ST **electroluminescent** pyridylphenyl terminated polyphenyl iridium complex; org **electroluminescent** device
pyridylphenyl terminated polyphenyl iridium complex
- IT **Luminescent** substances
(**electroluminescent**; manufacture of **electroluminescent** Ir (III) complexes with pyridylphenyl-terminated poly(p-phenyls) for organic **electroluminescent** devices)
- IT **Electroluminescent** devices
(organic; manufacture of **electroluminescent** Ir (III) complexes with pyridylphenyl-terminated poly(p-phenyls) for organic **electroluminescent** devices)
- IT Polyphenyls

- (pyridylphenyl-terminated; manufacture of **electroluminescent** Ir (III) complexes with pyridylphenyl-terminated poly(p-phenyls) for organic **electroluminescent** devices)
- IT 98-80-6DP, Phenylboric acid, reaction product with bromodibutoxyphenylboric acid homopolymer, iridium complex 7439-88-5DP, Iridium, complex with phenyl- and pyridylphenyl-terminated bromodibutoxyphenylboric acid homopolymer 38210-35-4DP, reaction products with pyridine compound, iridium complex 63996-36-1DP, 2-(4-Bromophenyl)pyridine, reaction product with bromodibutoxyphenylboric acid homopolymer, iridium complex 156028-45-4DP, phenyl- and pyridylphenyl-terminated, iridium complex 156028-45-4DP, reaction products with pyridine compound, iridium complex 756480-75-8P 756480-76-9P
- (manufacture of **electroluminescent** Ir (III) complexes with pyridylphenyl-terminated poly(p-phenyls) for organic **electroluminescent** devices)
- IT 104-36-9P, 1,4-Dibutoxybenzene 38210-35-4P 63996-36-1P, 2-(4-Bromophenyl)pyridine 116163-98-5P, 2-Bromo-1,4-dibutoxybenzene 756480-31-6P 756480-32-7P 756480-33-8P 756480-35-0P 756480-37-2P 770747-31-4P 770747-32-5P 777093-96-6P
- (manufacture of **electroluminescent** Ir (III) complexes with pyridylphenyl-terminated poly(p-phenyls) for organic **electroluminescent** devices)
- IT 109-04-6, 2-Bromopyridine 109-65-9, 1-Bromobutane 123-31-9, Hydroquinone, reactions 589-87-7, 1-Bromo-4-iodobenzene 1079-21-6, Phenylhydroquinone 10025-83-9, Iridium trichloride 15635-87-7, Iridium tris(acetylacetonate) 98437-23-1
- (manufacture of **electroluminescent** Ir (III) complexes with pyridylphenyl-terminated poly(p-phenyls) for organic **electroluminescent** devices)

L33 ANSWER 10 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:530380 HCAPLUS

DOCUMENT NUMBER: 141:96344

TITLE: Organic **electroluminescent** device for displays and illumination source and its production method

INVENTOR(S): Kita, Hiroshi; Yamada, Taketoshi; Suzurizato, Yoshiyuki; Ueda, Noriko

PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 65 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004185967	A2	20040702	JP 2002-351157	2002 1203

PRIORITY APPLN. INFO.: JP 2002-351157

2002
1203

AB The invention relates to an organic **electroluminescent**

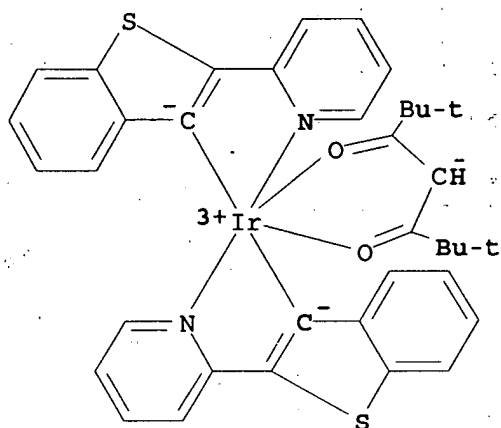
device comprising a light-emitting layer containing a phosphorescent dopant and a multifunctioning polymer, wherein, at least, the two of functional mol. units selected from a luminescent host unit, a hole transporting unit, and an electron transporting unit constitute the multifunctioning polymer.

IT 344796-22-1

(organic electroluminescent device having phosphorescent dopant and multifunctioning polymer in light emitting layer)

RN 344796-22-1 HCAPLUS

CN Iridium, bis[2-(2-pyridinyl-κN)benzo[b]thien-3-yl-κC](2,2,6,6-tetramethyl-3,5-heptanedionato-κO,κO')-, (OC-6-33)-(9CI) (CA INDEX NAME)



IC ICM H05B033-14

ICS C08F212-00; C08F220-34; C08F226-12; C08F293-00; C08G081-00; C08G085-00; C09K011-06; H05B033-10

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 37, 74

ST org electroluminescent device phosphoresce multifunction polymer

IT Electroluminescent devices

Light sources

Optical imaging devices

Phosphorescent substances

(organic electroluminescent device having phosphorescent dopant and multifunctioning polymer in light emitting layer)

IT Polyesters, uses

Polyethers, uses

Polyurethanes, uses

(organic electroluminescent device having phosphorescent dopant and multifunctioning polymer in light emitting layer)

IT 714976-00-8 714976-02-0 714976-05-3 714976-08-6
714976-11-1 714976-13-3 714976-16-6 714976-18-8
714976-21-3 714976-25-7 714976-27-9 714976-29-1
714976-31-5 714976-33-7 714976-35-9 714976-36-0
714976-38-2

(organic electroluminescent device having

phosphorescent dopant and multifunctioning polymer in
light emitting layer)

IT 94928-86-6 344796-22-1 376367-93-0

(organic electroluminescent device having
phosphorescent dopant and multifunctioning polymer in
light emitting layer)

L33 ANSWER 11 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:380296 HCAPLUS

DOCUMENT NUMBER: 141:123741

TITLE: Solution-Processible Conjugated
Electrophosphorescent Polymers

AUTHOR(S): Sandee, Albertus J.; Williams, Charlotte K.;
Evans, Nicholas R.; Davies, John E.; Boothby,
Clare E.; Koehler, Anna; Friend, Richard H.;
Holmes, Andrew B.

CORPORATE SOURCE: Melville Laboratory for Polymer Synthesis,
Department of Chemistry, University of
Cambridge, Cambridge, CB2 1EW, UK

SOURCE: Journal of the American Chemical Society
(2004), 126(22), 7041-7048

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

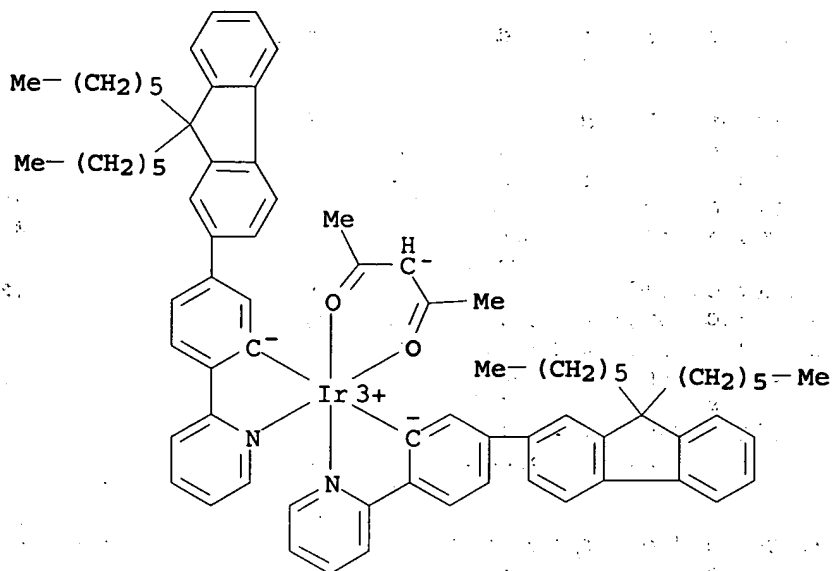
AB The authors report the synthesis and photophys. study of
solution-processible **phosphorescent** Ir complexes. These
comprise bis-cyclometalated Ir units [Ir(ppy)₂(acac)] or
[Ir(btp)₂(acac)] where ppy is 2-(pyridin-2-yl)phenyl, btp is
2-(pyridin-2-yl)benzo[b]thien-3-yl, and acac is acetylacetonate.
The Ir units are covalently attached to and in conjugation with
oligo(9,9-dioctylfluorene-2,7-diyl) [(FO)_n] to form
[Ir(ppy-(FO)_n)₂(acac)] or [Ir(btp-(FO)_n)₂(acac)], where the number of
fluorene units, n, is 1, 2, 3, .apprx.10, .apprx.20, .apprx.30, or
.apprx.40. All the complexes exhibit emission from a mixed
triplet state in both photoluminescence and
electroluminescence, with efficient quenching of the
fluorene singlet emission. Short-chain complexes
[Ir(ppy-(FO)_n-FH)₂(acac)] where n = 0, 1, or 2, show green light
emission, red shifted through the FO attachment by .apprx.70 meV,
but for longer chains there is quenching because of the lower
energy triplet state associated with polyfluorene. In contrast,
polymeric [Ir(btp-(FO)_n)₂(acac)] where n = 5-40 have better
triplet energy level matching and can be used to provide efficient
red **phosphorescent** polymer light-
emitting diodes, with a red shift due to the fluorene
attachment of .apprx.50 meV. The authors contrast this small
(50-70 meV) and short-range modification of the triplet energies
through extended conjugation, with the much more substantial
evolution of the π - π^* singlet transitions, which saturate at
about n = 10. These covalently bound materials show improvements
in efficiency over simple blends and will form the basis of future
studies into energy-transfer processes occurring in light
-**emitting** diodes. The crystal and mol. structures of
(acetylacetonato)bis(2-(5-bromopyridin-2-yl)benzo[b]thiophen-3-
yl)iridium were determined by x-ray crystallog.

IT 620625-11-8P 620625-12-9P 620625-13-0P

(preparation and photophys. properties of cyclometalated iridium
complexes containing oligofluorene and use as red
phosphorescent LEDs)

RN 620625-11-8 HCAPLUS

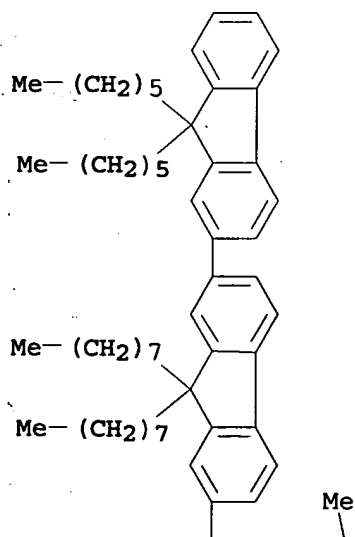
CN Iridium, bis[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-(2-pyridinyl- κ N)phenyl- κ C] (2,4-pentanedionato- κ O, κ O') - (9CI) (CA INDEX NAME)



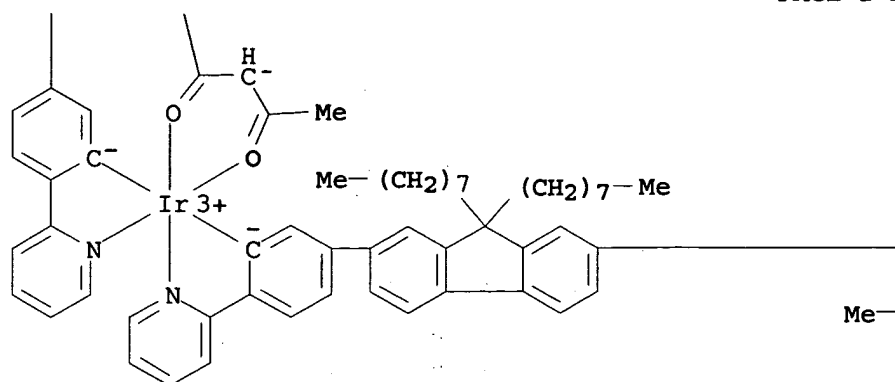
RN 620625-12-9 HCAPLUS

CN Iridium, bis[5-(9',9'-dihexyl-9,9-dioctyl[2,2'-bi-9H-fluoren]-7-yl)-2-(2-pyridinyl- κ N)phenyl- κ C] (2,4-pentanedionato- κ O, κ O') - (9CI) (CA INDEX NAME)

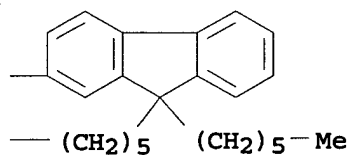
PAGE 1-A



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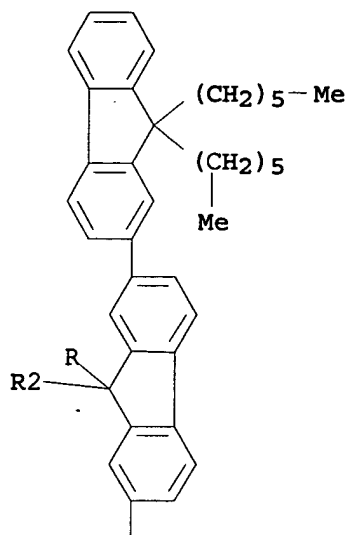


PAGE 2-B

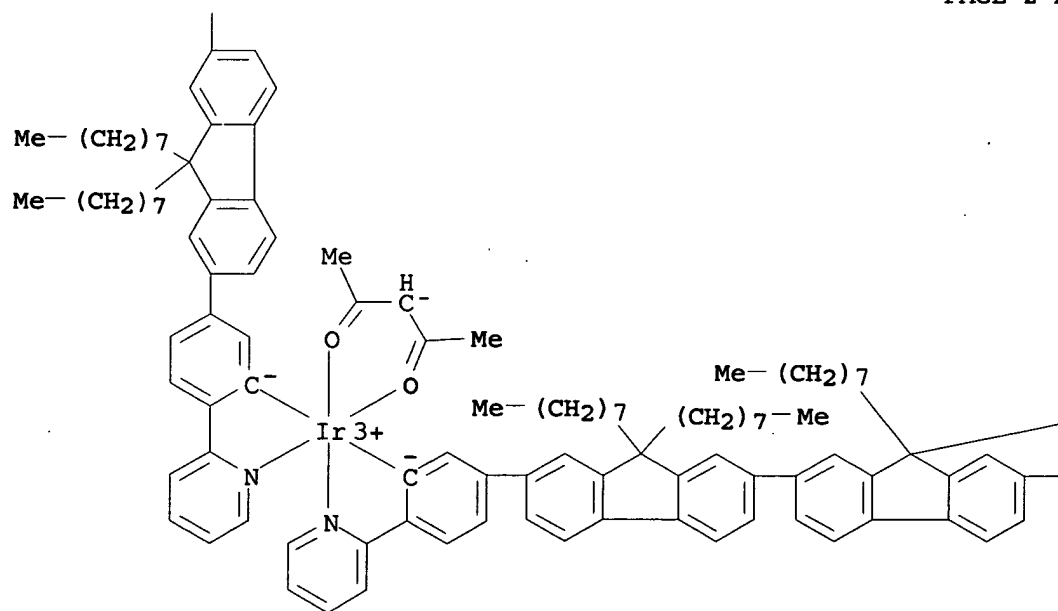


RN 620625-13-0 HCAPLUS
 CN Iridium, bis[5-(9'',9''-dihexyl-9,9,9',9'-tetraoctyl[2,2':7',2''-ter-9H-fluoren]-7-yl)-2-(2-pyridinyl-κN)phenyl-κC](2,4-pentanedionato-κO,κO')-(9CI) (CA INDEX NAME)

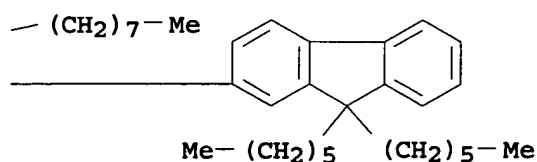
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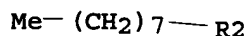
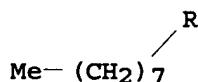
PAGE 2-A



PAGE 2-B



PAGE 3-A



- CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22, 35, 37, 73
- ST cyclometalated iridium oligofluorene contg prepn electro photo
fluorescence phosphorescence; LED green red
cyclometalated iridium oligofluorene contg
- IT Intramolecular energy transfer
(electronic; preparation and photophys. properties of cyclometalated
iridium complexes containing oligofluorene and use as red
phosphorescent LEDs)
- IT Electroluminescent devices
(green-emitting; preparation and photophys. properties of
cyclometalated iridium complexes containing oligofluorene and use
as red phosphorescent LEDs)
- IT Electronic energy transfer
(intramol.; preparation and photophys. properties of cyclometalated
iridium complexes containing oligofluorene and use as red
phosphorescent LEDs)
- IT Phosphorescence
(photo- and electro-; preparation and photophys. properties of
cyclometalated iridium complexes containing oligofluorene and use
as red phosphorescent LEDs)
- IT Fluorescence
Luminescence, electroluminescence
UV and visible spectra

- (preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)
- IT Electroluminescent devices
(red-emitting; preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)
- IT 721916-86-5DP, conjugated polymer-terminated product
(crystal structure; preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)
- IT 620624-90-0P
(preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)
- IT 195456-48-5DP, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl), 2-pyridylphenyl- and 2-pyridinylbenzo[b]thiophen-3-yl-terminated, iridium acetoacetate complexes 620624-90-0DP, conjugated polymer-terminated products 620625-11-8P 620625-12-9P 620625-13-0P 721916-86-5DP, conjugated polymer-terminated products
(preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)
- IT 95-15-8, Benzo[b]thiophene 106-40-1, p-Bromoaniline 110-86-1, Pyridine, reactions 624-28-2, 2,5-Dibromopyridine 61676-62-8, 2-Isopropoxy-4,4,5,5-tetramethyl-1,3,2-dioxaborolane 198964-46-4, 2,7-Dibromo-9,9-dioctylfluorene 264925-45-3, 2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9-dihexylfluorene 620624-94-4, 2-Bromo-7-trimethylsilyl-9,9-dioctylfluorene
(preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)
- IT 63996-36-1P, 2-(4-Bromophenyl)pyridine 80389-85-1P 376584-76-8P, 2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)benzo[b]thiophene 557793-46-1P, 2-(2-Benzo[b]thienyl)-5-bromopyridine 620624-92-2P, 2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-7-trimethylsilyl-9,9-dioctylfluorene 620624-96-6P, 2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-7-bromo-9,9-dioctylfluorene 620624-98-8P, 2-[4-(9,9-Dihexylfluoren-2-yl)phenyl]pyridine 620625-01-6P, 2-[4-(7-Trimethylsilyl-9,9-dioctylfluoren-2-yl)phenyl]pyridine 620625-03-8P, 2-[4-(7-Iodo-9,9-dioctylfluoren-2-yl)phenyl]pyridine 620625-05-0P, 2-[4-[7-(9,9-Dihexylfluoren-2-yl)-9,9-dioctylfluoren-2-yl]phenyl]pyridine 620625-07-2P, 2-[4-[7-(7-Iodo-9,9-dioctylfluoren-2-yl)-9,9-dioctylfluoren-2-yl]phenyl]pyridine 620625-09-4P, 2-[4-[7-[7-(9,9-Dihexylfluoren-2-yl)-9,9-dioctylfluoren-2-yl]-9,9-dioctylfluoren-2-yl]phenyl]pyridine 721916-91-2P
(preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)

REFERENCE COUNT: 66 THERE ARE 66 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 12 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:371813 HCAPLUS
DOCUMENT NUMBER: 141:30447

TITLE: White electrophosphorescence from
semiconducting polymer blends

AUTHOR(S): Gong, Xiong; Ma, Wanli; Ostrowski, Jacek C.;
Bazan, Guillermo C.; Moses, Daniel; Heeger,
Alan J.

CORPORATE SOURCE: Institute for Polymers and Organic Solids and
Mitsubishi Chemical Center for Advanced
Materials, University of California, Santa
Barbara, CA, 93106, USA

SOURCE: Advanced Materials (Weinheim, Germany) (2004),
16(7), 615-619
CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

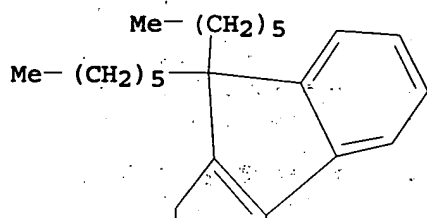
AB White emission from polymer light-emitting
diodes (PLEDs) is demonstrated using semiconducting polymers
blended with organometallic emitters and spin-cast from solution.
Because a single semiconducting polymer (polyfluorene) was used as
the common host for red, green and blue emission, the color
coordinates, the color temps. and the color rendering indexes of
the white emission are insensitive to the brightness, applied
voltage and applied c.d. The PLEDs have luminous
efficiency of 4.3 cd/A and luminance of 223 cd/m² at
c.d. of 5.2 mA/cm² (V = 14 V); at 17 V, luminance of 1.2
+ 104 cd/m².

IT 446017-50-1, Tris(2,5-bis-2'-(9',9'-
dihexylfluorene)pyridine)iridium
(white electrophosphorescence from semiconducting polymer
blends containing)

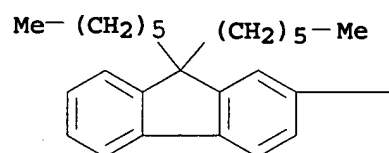
RN 446017-50-1 HCAPLUS

CN Iridium, tris[2-[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-pyridinyl-
κN]-9,9-dihexyl-9H-fluoren-3-yl-κC]-(9CI) (CA INDEX
NAME)

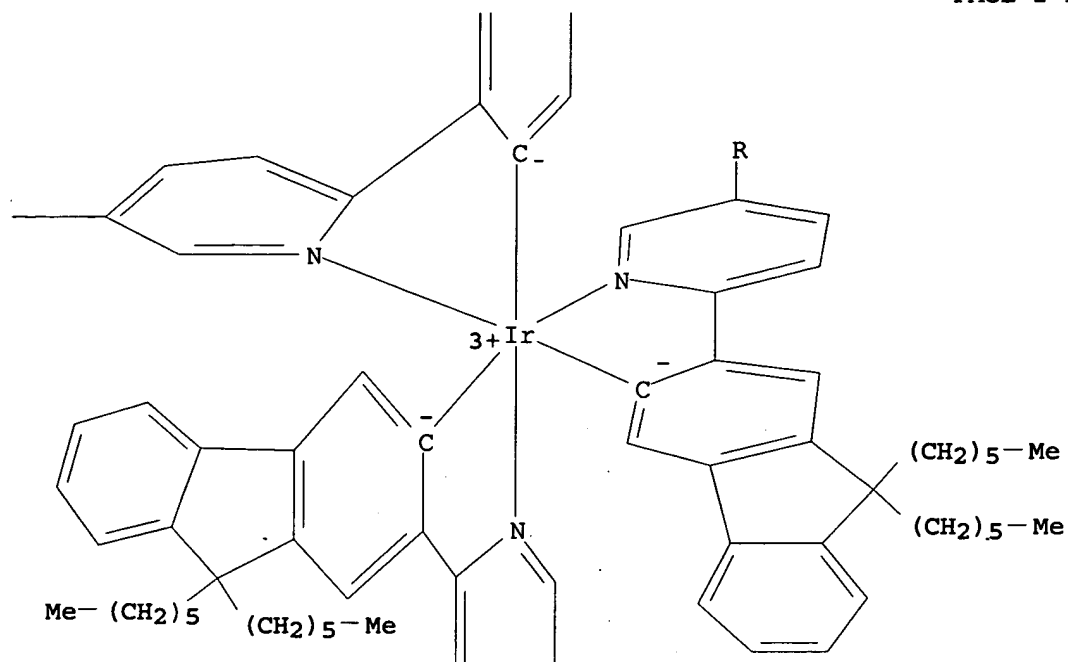
PAGE 1-B



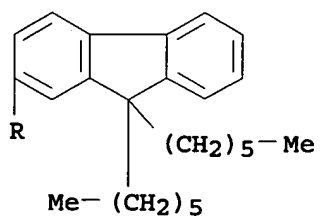
PAGE 2-A



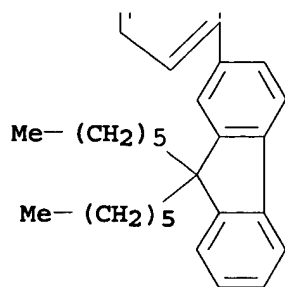
PAGE 2-B



PAGE 3-A



PAGE 3-B



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 36, 38, 76
 ST electrophosphorescence white semiconducting polymer blend;
 phosphorescence electro white semiconducting polymer blend
 IT **Phosphorescence**
 (electro-, white; from semiconducting polymer blends)
 IT **Luminescence, electroluminescence**
 (white; from semiconducting polymer blends)
 IT **Electroluminescent devices**
 (white; with semiconducting polymer blends)
 IT 50851-57-5, Poly(styrenesulfonic acid) 123864-00-6,
 Poly(9,9-dioctylfluorene) 126213-51-2, PEDOT 446017-50-1
 , Tris(2,5-bis-2'-(9',9'-dihexylfluorene)pyridine)iridium
 688318-32-3, Poly(9,9-dioctylfluorene-co-fluorenone)
 (white electrophosphorescence from semiconducting polymer
 blends containing)
 REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L33 ANSWER 13 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:231082 HCAPLUS
 DOCUMENT NUMBER: 141:30755
 TITLE: White electrophosphorescence from
 semiconducting polymer blends
 AUTHOR(S): Gong, Xiong; Ma, Wanli; Ostrowski, Jacek C.;
 Bazan, Guillermo C.; Moses, Daniel; Heeger,
 Alan J.
 CORPORATE SOURCE: Institute for Polymers and Organic Solids and
 Mitsubishi Chemical Center for Advanced
 Materials, University of California, Santa
 Barbara, Santa Barbara, CA, 93106, USA
 SOURCE: PMSE Preprints (2004), 90, 660-676
 CODEN: PPMRA9; ISSN: 1550-6703
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal; (computer optical disk)
 LANGUAGE: English
 AB White emission from polymer light-emitting
 diodes (PLEDs) is demonstrated using semiconducting polymers
 blended with organometallic emitters and spin-cast from solution.
 Because a single semiconducting polymer (polyfluorene) was used as
 the common host for red, green and blue emission, the color
 coordinates, the color temps. and the color rendering indexes of
 the white emission are insensitive to the brightness, applied
 voltage and applied c.d. The PLEDs have luminous

efficiency of 4.3 cd/A and luminance of 223 cd/m² at
c.d. of 5.2 mA/cm² (V = 14 V); at 17 V, luminance of 1.2
+ 104 cd/m².

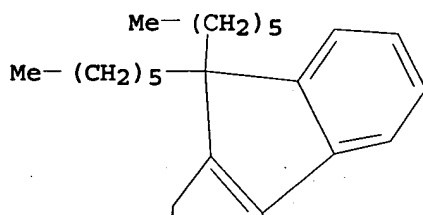
IT 446017-50-1

(white electrophosphorescence from semiconducting polymer
blends containing)

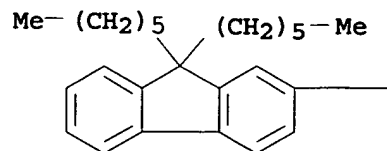
RN 446017-50-1 HCAPLUS

CN Iridium, tris[2-[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-pyridinyl-
κN]-9,9-dihexyl-9H-fluoren-3-yl-κC]- (9CI) (CA INDEX
NAME)

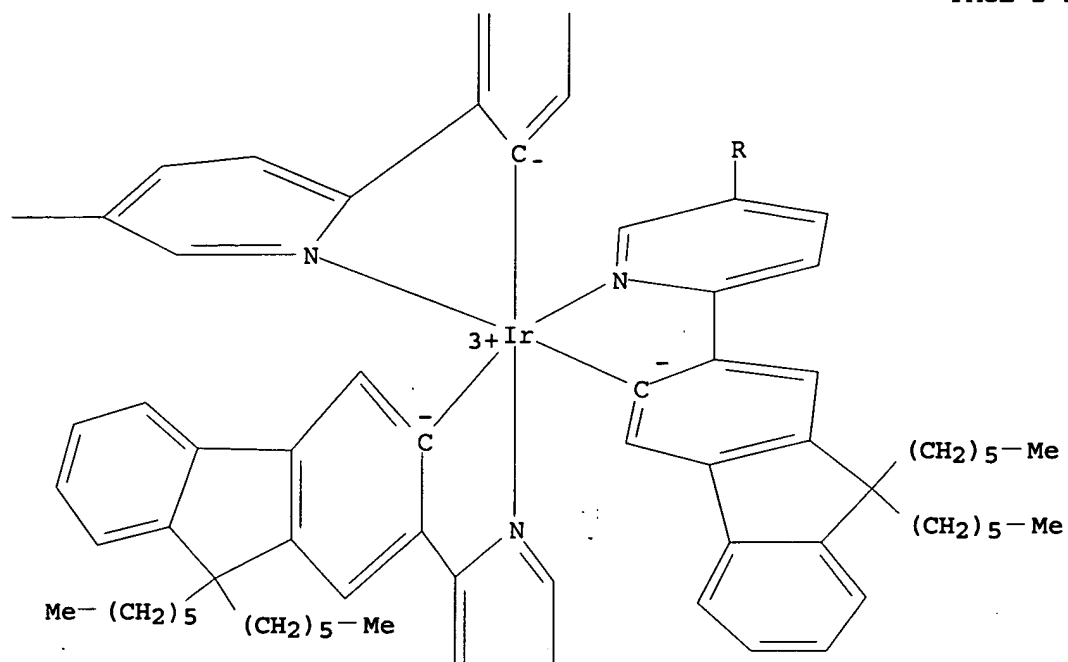
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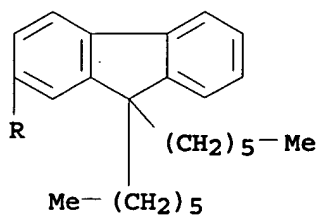
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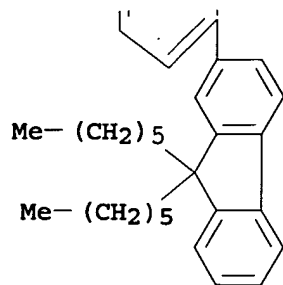
PAGE 2-B



PAGE 3-A



PAGE 3-B



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 36, 38, 76
 ST electrophosphorescence white semiconducting polymer blend;
 phosphorescence electro white semiconducting polymer blend
 IT **Phosphorescence**
 (electro-, white; from semiconducting polymer blends)
 IT **Luminescence, electroluminescence**
 (white; from semiconducting polymer blends)
 IT **Electroluminescent devices**
 (white; with semiconducting polymer blends)
 IT 50851-57-5, Poly(styrenesulfonic acid) 123864-00-6,
 Poly(9,9-dioctylfluorene) 126213-51-2, PEDOT 446017-50-1
 688318-32-3
 (white electrophosphorescence from semiconducting polymer
 blends containing)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L33 ANSWER 14 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:203878 HCAPLUS

DOCUMENT NUMBER: 140:236565

TITLE: Blended dendrimer composition for
 light emitting films and
 laminated light emitting
 device prepared thereby

INVENTOR(S): Samuel, Ifor David William; Burn, Paul Leslie

PATENT ASSIGNEE(S): Isis Innovation Limited, UK; The University
 Court of the University of St Andrews

SOURCE: PCT Int. Appl., 28 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020504	A1	20040311	WO 2003-GB3732	

2003

0828

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 CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,

KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
 MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
 SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
 UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,
 GQ, GW, ML, MR, NE, SN, TD, TG
 EP 1534769 A1 20050601 EP 2003-791040

2003
 0828

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
 EE, HU, SK
 US 2005247911 A1 20051110 US 2005-525616

2005
 0321

PRIORITY APPLN. INFO.: GB 2002-20080 A
 2002
 0829

WO 2003-GB3732 W
 2003
 0828

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
 *

AB Title composition is composed of a mixture of at least two different dendrimers possessing the same core and the same repeating units in the dendrons, but having either different generation of at least one of the dendrons, or different number of dendrons, or both, and the dendrimers are fluorescent or phosphorescent organometallic dendrimers with metal cation, such as iridium, platinum, or rhenium, as part of the core. The dendrimer composition is in the form of a solid film capable of emitting visible light, and an organic light emitting device comprising an optional substrate, an electrode, a first optional charge-transporting layer, a light emissive layer, a second optional charge-transporting layer, and a counter electrode, in sequence, in which at least one of the emissive layer and the two charge-transporting layer is a light emitting film. Thus, a green-emitting multilayer device is composed of indium tin oxide/4,4'-Bis(N-carbazole)biphenyl (CBP)/iridium dendrimer composition layer /2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline (BCP), and the dendrimer composition layer comprised 20 weight% dendrimers (I) and (II) at a ratio of 1:2 and 80 weight% CBP.

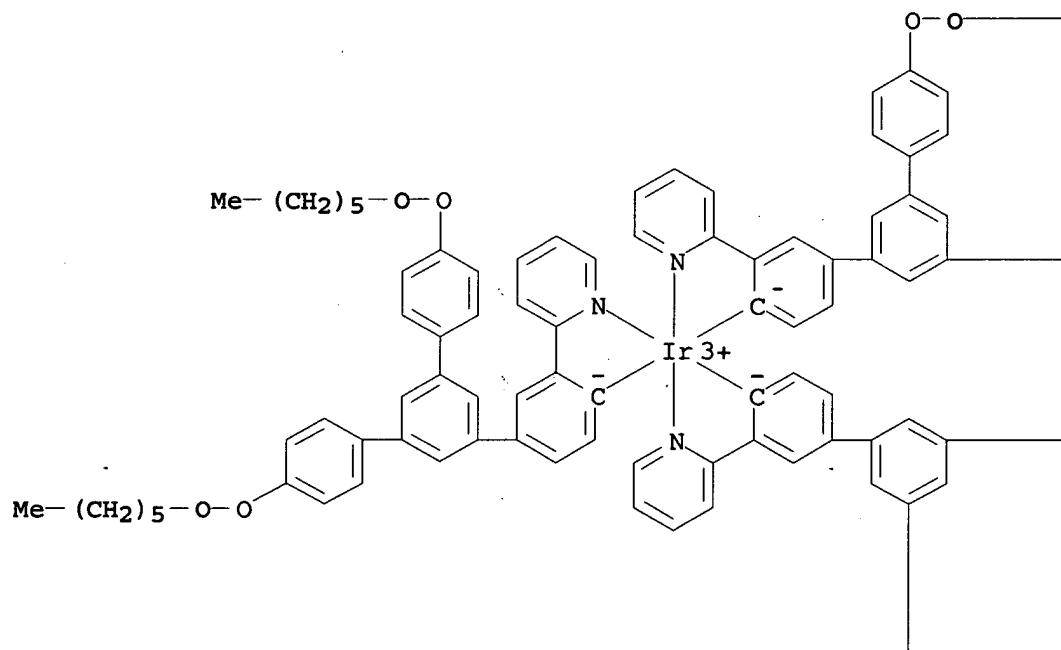
IT 667894-58-8
 (dendritic; blended dendrimer composition for laminated light emitting devices)

RN 667894-58-8 HCAPLUS

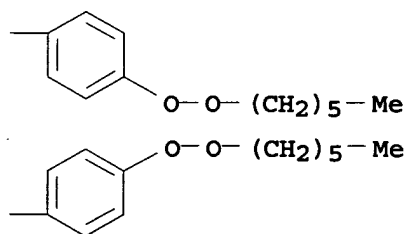
CN Iridium, tris[4''-(hexyldioxy)-5'-[4-(hexyldioxy)phenyl]-3-(2-pyridinyl-κN) [1,1':3',1''-terphenyl]-4-yl-κC]- (9CI)

(CA INDEX NAME)

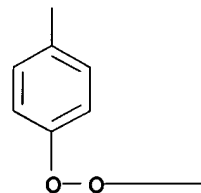
PAGE 1-A



PAGE 1-B

 $-(\text{CH}_2)_5-\text{Me}$ 

PAGE 2-A



PAGE 2-B

— (CH₂)₅—Me

IC ICM C08G083-00
 ICS C09K011-00; C09K011-06; H01L051-30; C07F015-00; H05B033-14
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 38, 73
 ST dendrimer light emitting film laminated device
 biscarbazolebiphenyl dimethyldiphenylphenanthroline
 IT Electroluminescent devices
 (blended dendrimer composition for laminated light
 emitting devices)
 IT Dendritic polymers
 (blended dendrimer composition for laminated light
 emitting devices)
 IT 50926-11-9, Indium tin oxide
 (anode; blended dendrimer composition for laminated light
 emitting devices)
 IT 58328-31-7, 4,4'-Bis(N-carbazole)biphenyl
 (charge-transporting component; blended dendrimer composition for
 laminated light emitting devices)
 IT 667894-58-8
 (dendritic; blended dendrimer composition for laminated
 light emitting devices)
 IT 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline
 (electron-transporting component; blended dendrimer composition for
 laminated light emitting devices)
 REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L33 ANSWER 15 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:143238 HCAPLUS
 DOCUMENT NUMBER: 140:182406
 TITLE: Metallic complexes covalently bound to
 conjugated polymers and electronic devices
 INVENTOR(S): Herron, Norman; Lecloux, Daniel David;
 Simmons, Howard E., III; Uckert, Frank P.
 PATENT ASSIGNEE(S): E. I. Du Pont De Nemours and Company, USA
 SOURCE: PCT Int. Appl., 53 pp.

DOCUMENT TYPE: CODEN: PIXXD2
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: English
 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004015025	A1	20040219	WO 2003-US23690	2003 0729

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2004072018	A1	20040415	US 2003-625096	2003 0722
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CA 2494086	AA	20040219	CA 2003-2494086	2003 0729
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EP 1554361	A1	20050720	EP 2003-784837	2003 0729
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PRIORITY APPLN. INFO.:

US 2002-399934P	P	2002 0730
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WO 2003-US23690	W	2003 0729
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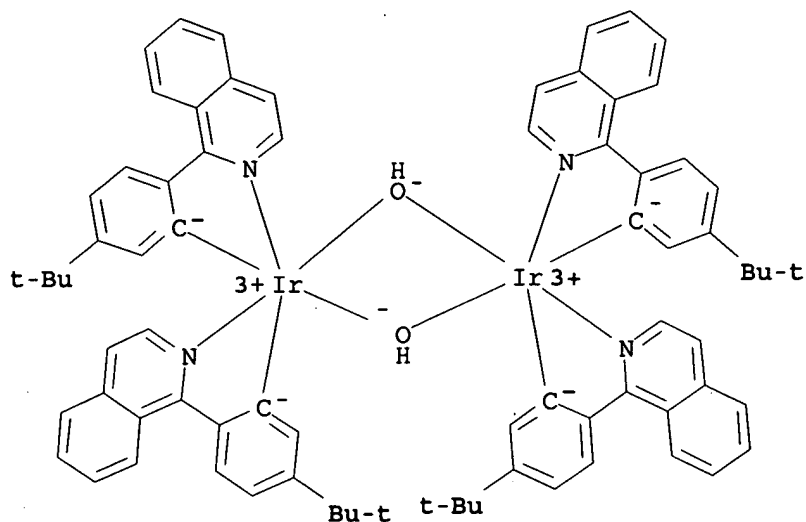
AB The polymeric metal complexes comprise metallic (e.g. La, Pt, Ir, Al) complexes covalently bound to conjugated polymers and luminescent materials containing such polymeric metal complexes. The electronic luminescent devices have active layer that includes such polymeric metal complexes. A metal complex of IrOH[2-[2,4-(difluorophenyl)isoquinoline]2]2 (prepared from IrCl3 hydrate and (difluorophenyl)isoquinoline ligand) was prepared, which could be reacted with a copolymer containing fluorenyloxidiazole units.

IT 660393-99-7P

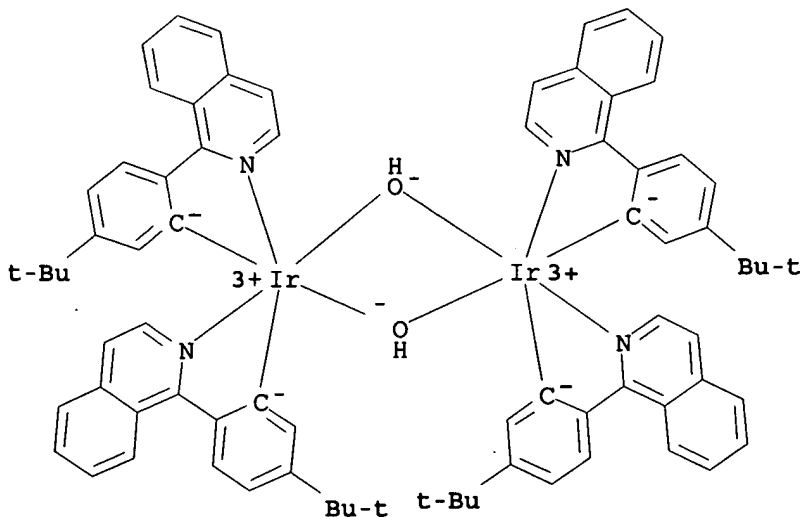
(Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

RN 660393-99-7 HCAPLUS

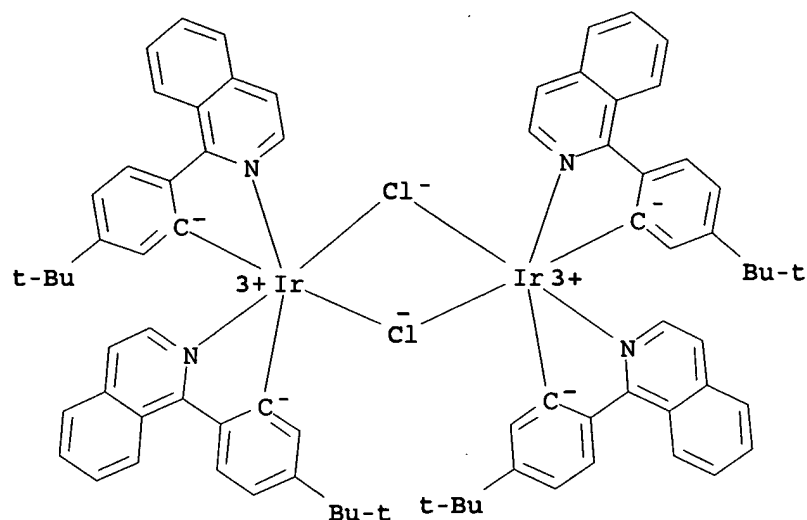
CN Iridium, tetrakis[5-(1,1-dimethylethyl)-2-(1-isoquinolinyl-κN)phenyl-κC]di-μ-hydroxydi- (9CI) (CA INDEX NAME)



IT 660393-99-7DP, fluorenyloxidiazole copolymer complex
 (Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and
 octylcarbazole copolymer for)
 RN 660393-99-7 HCAPLUS
 CN Iridium, tetrakis[5-(1,1-dimethylethyl)-2-(1-isoquinolinyl-
 κN)phenyl-κC]di-μ-hydroxydi- (9CI) (CA INDEX NAME)



IT 435294-70-5P
 (hydrolysis; Pt, Ir, and Al complex with fluorene,
 fluorenyloxidiazole, and octylcarbazole copolymer for)
 RN 435294-70-5 HCAPLUS
 CN Iridium, di-μ-chlorotetrakis[5-(1,1-dimethylethyl)-2-(1-
 isoquinolinyl-κN)phenyl-κC]di- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
 ICS H05B033-14; H01L051-20; H01L051-30; C08G061-02; C08G061-12
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 73, 76
 ST electroluminescent device conjugated polymer metal complex
 IT Electroluminescent devices
 (Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)
 IT 660393-98-6P 660393-99-7P 660394-03-6P
 (Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)
 IT 660393-99-7DP, fluorenyloxidiazole copolymer complex
 660394-03-6DP, Ir complex
 (Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)
 IT 435294-70-5P
 (hydrolysis; Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

L33 ANSWER 16 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:875368 HCAPLUS

DOCUMENT NUMBER: 139:365744

TITLE: Solution-processable phosphorescent materials

INVENTOR(S): Holmes, Andrew; Sandee, Albertus; Williams, Charlotte; Koehler, Anna; Evans, Nick
 PATENT ASSIGNEE(S): Cambridge University Technical Services Limited, UK

SOURCE: PCT Int. Appl., 79 pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

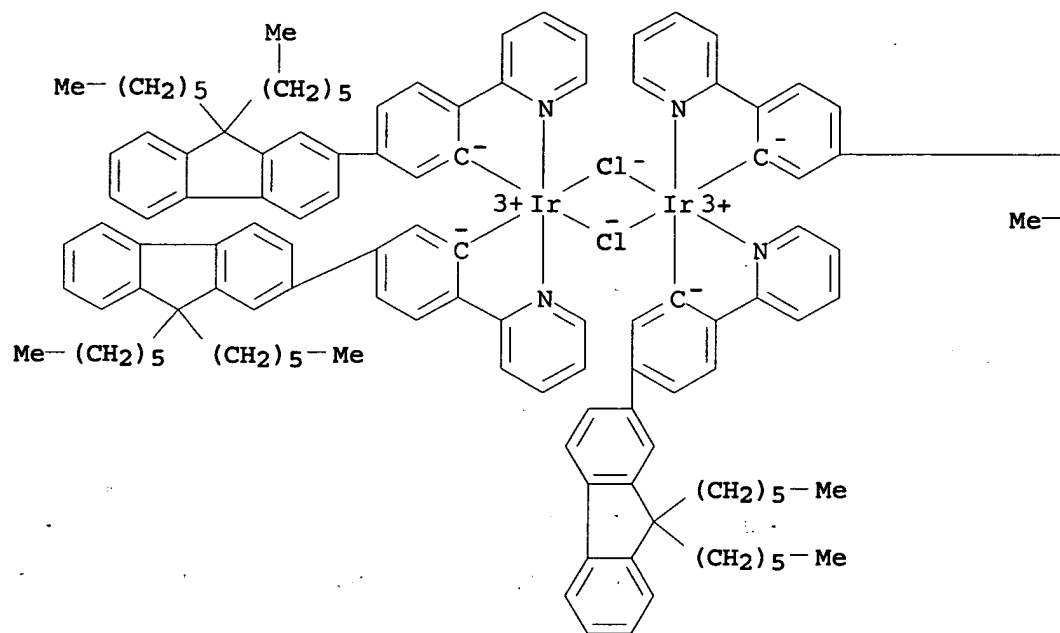
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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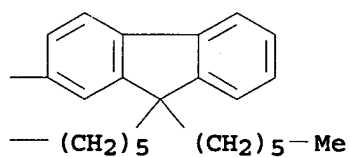
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 0424
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 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
 KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
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 SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
 VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,
 GQ, GW, ML, MR, NE, SN, TD, TG
 EP 1501907 A2 20050202 EP 2003-725341 2003
 0424
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
 EE, HU, SK
 JP 2005524725 T2 20050818 JP 2003-587896 2003
 0424
 PRIORITY APPLN. INFO.: GB 2002-9652 A 2002
 0426
 WO 2003-GB1765 W 2003
 0424

AB A material capable of **luminescence** comprising: a polymer
 or oligomer; and an organometallic group characterized in that the
 polymer or oligomer is at least partially conjugated and the
 organometallic group is covalently bound to the polymer or
 oligomer and the nature, location and/or proportion of the polymer
 or oligomer and of the organometallic group in the material are
 selected so that the **luminescence** predominantly is
phosphorescence. The **phosphorescent** materials
 are useful for OLED (organic light-emitting
 diodes), etc.
 IT 620625-10-7P 620625-11-8P 620625-12-9P
 620625-13-0P
 (manufacture of solution-processable **phosphorescent** materials
 useful for OLED)
 RN 620625-10-7 HCAPLUS
 CN Iridium, di- μ -chlorotetrakis[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-
 (2-pyridinyl- κ N)phenyl- κ C]di- (9CI) (CA INDEX NAME)

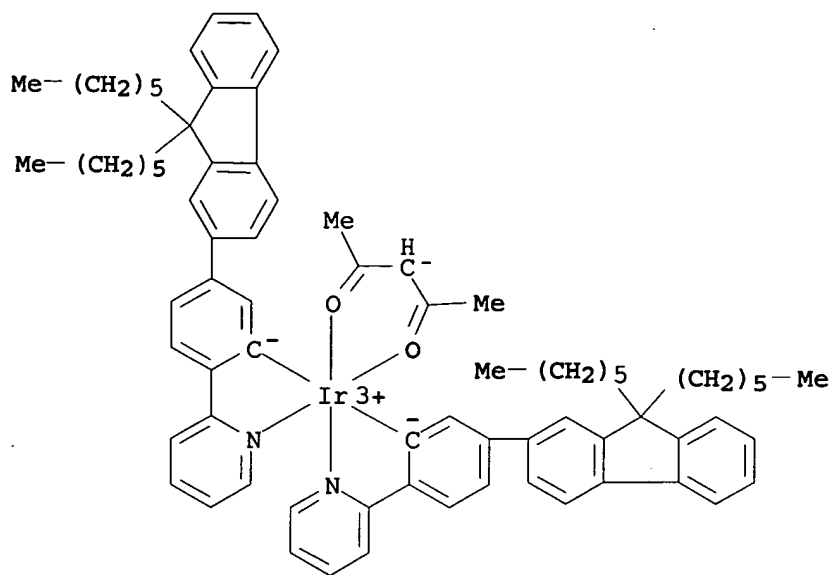
PAGE 1-A



PAGE 1-B



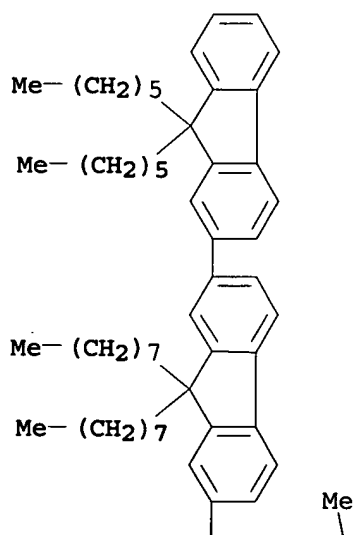
RN 620625-11-8 HCAPLUS
 CN Iridium, bis[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-(2-pyridinyl-
 κN)phenyl-κC] (2,4-pentanedionato-κO,κO') -
 (9CI) (CA INDEX NAME)



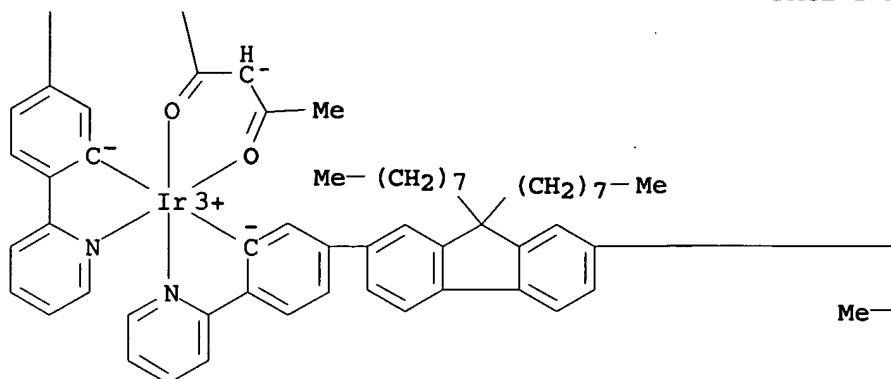
RN 620625-12-9 HCAPLUS

CN Iridium, bis[5-(9',9'-dihexyl-9,9-dioctyl[2,2'-bi-9H-fluoren]-7-yl)-2-(2-pyridinyl-κN)phenyl-κC](2,4-pentanedionato-κO,κO')-(9CI) (CA INDEX NAME)

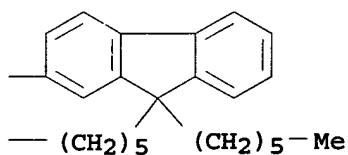
PAGE 1-A



PAGE 2-A

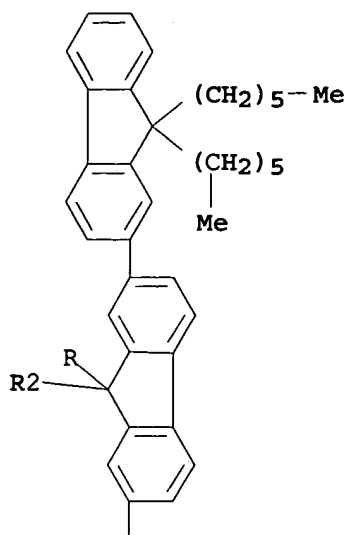


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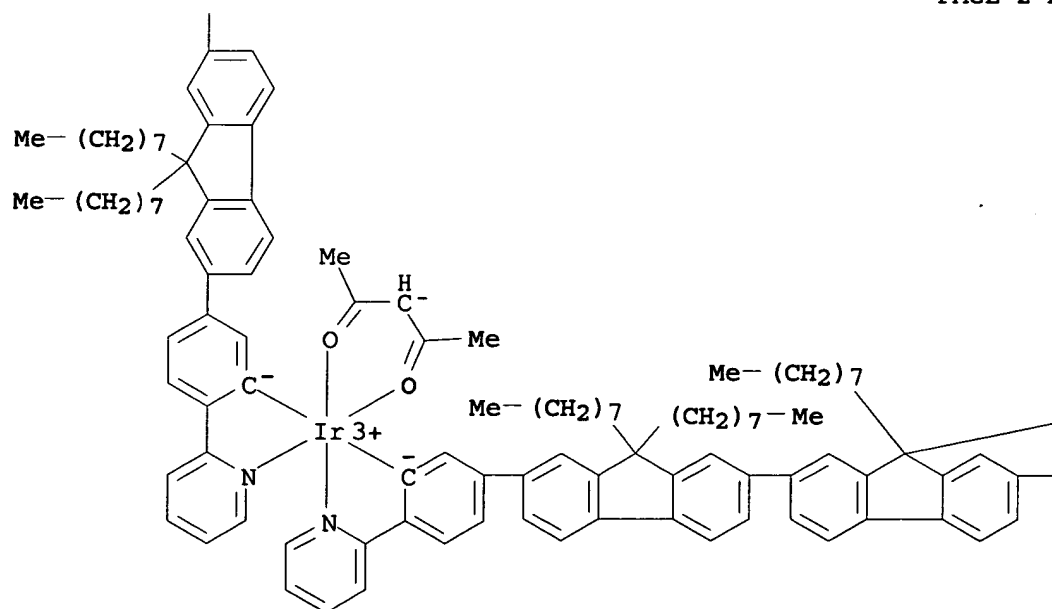


RN 620625-13-0 HCAPLUS
 CN Iridium, bis[5-(9'',9''-dihexyl-9,9,9',9'-tetraoctyl[2,2':7',2''-ter-9H-fluoren]-7-yl)-2-(2-pyridinyl-κN)phenyl-κC](2,4-pentanedionato-κO,κO')-(9CI) (CA INDEX NAME)

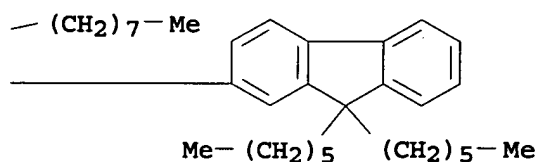
PAGE 1-A



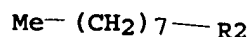
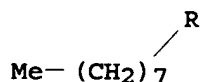
PAGE 2-A



PAGE 2-B



PAGE 3-A



- IC ICM C09K
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 29, 73, 76
 ST OLED phosphorescent material conjugated polymer
 organometallic compd luminescence
 IT Electroluminescent devices
 Electroluminescent devices
 Fluorescence
 (manufacture of solution-processable phosphorescent materials
 useful for OLED)
 IT 7439-88-5DP, Iridium, conjugated polymer complexes 63996-36-1DP,
 2-(4-Bromophenyl)pyridine, conjugated polymer terminated products
 with, Ir complexes 92220-65-0DP, conjugated polymer terminated
 products 195456-48-5DP, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl),
 pyridylphenyl-terminated, iridium complex 198964-76-0DP,
 2,7-Di(4,4,5,5-tetramethyl-1,3,2-dioxaboronate)-9,9-
 dioctylfluorene-2,7-dibromo-9,9-dioctylfluorene copolymer,
 pyridylphenyl-terminated, iridium complex 620624-90-0DP,
 conjugated polymer terminated products
 (manufacture of solution-processable phosphorescent materials
 useful for OLED)
 IT 63996-36-1P, 2-(4-Bromophenyl)pyridine 80389-85-1P
 620624-90-0P 620624-92-2P 620624-96-6P 620624-98-8P
 620625-01-6P 620625-03-8P 620625-05-0P 620625-07-2P

620625-09-4P 620625-10-7P 620625-11-8P
620625-12-9P 620625-13-0P

(manufacture of solution-processable phosphorescent materials
useful for OLED)

IT 106-40-1, p-Bromoaniline 110-86-1, Pyridine, reactions
541-50-4, Acetoacetic acid, reactions 10025-83-9, Iridium
chloride (IrCl₃) 61676-62-8, 2-Isopropoxy-4,4,5,5-tetramethyl-
1,3,2-dioxaborolane 264925-45-3 620624-94-4
(manufacture of solution-processable phosphorescent materials
useful for OLED)

L33 ANSWER 17 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:850365 HCAPLUS

DOCUMENT NUMBER: 140:43282

TITLE: High-performance polymer-based
electrophosphorescent light-
emitting diodes

AUTHOR(S): Gong, Xiong; Ostrowski, Jacek C.; Moses,
Daniel; Bazan, Guillermo C.; Heeger, Alan J.

CORPORATE SOURCE: Institute for Polymers and Organic Solids,
University of California at Santa Barbara,
Santa Barbara, CA, 93106, USA

SOURCE: Journal of Polymer Science, Part B: Polymer
Physics (2003), 41(21), 2691-2705
CODEN: JPBPEM; ISSN: 0887-6266

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB High-performance electrophosphorescent light-
emitting diodes (LEDs) were demonstrated with
tris[9,9-dihexyl-2-(pyridinyl-2') fluorene]iridium(III)
[Ir(DPF)3], tris(9,9-dihexyl-2-[phenyl-4'-(-pyridin-2''-yl)]
fluorene)iridium(III) [Ir(DPPF)3], and tris[2,5-bis-2'- (9,9'-
dihexylfluorene)iridium] [Ir(HFP)3] as guests and
poly(vinylcarbazole) (PVK) blended with 2-tert-butylphenyl-5-
biphenyl-1,3,4-oxadiazole (PBD), poly(9,9-dioctylfluorenyl-2,7-
diyl) (PFO), and poly(9,9-dihexylfluorene)-co-2,5-dicyanophenylene
(PF3CNP1) as hosts. The devices made with PVK-PBD exhibited the
highest external quantum efficiency (QE_{ext}), luminous
efficiency (LE) and luminance (L). For example,
yellowish green emission from PVK-PBD doped with Ir(DPF)3 was
observed with QE_{ext} = 10% ph/el, LE = 36 cd/A, and L > 8300 cd/m²,
and red emission from PVK-PBD doped with Ir(DPPF)3 was observed with
QE_{ext} = 5% ph/el, LE = 7.2 cd/A, and L > 2700 cd/m². Red
electrophosphorescent LEDs with a low turn-on voltage (5 V), QE_{ext}
= 4.5% ph/el, LE = 6.2 cd/A, and L > 1000 cd/m² were achieved with
the conjugated polymer, PFO, as the host and Ir(HFP)3 as the
guest. Electrophosphorescent LEDs fabricated with the conjugated
copolymer PF3CNP1 doped with Ir(HFP)3 exhibited QE_{ext} = 1.5% ph/el
and LE = 3 cd/A with L = 2200 cd/m². These devices exhibited good
operational stability under DC drive at room temperature. Foerster
energy transfer played a minor role in achieving the high
efficiencies in these electrophosphorescent devices; direct
sequential charge trapping appeared to be the main operating
mechanism. These results demonstrated that high-performance
electrophosphorescence can be obtained from polymer-based LEDs
that are fabricated by processing the active materials directly
from solution

IT 446017-48-7 446017-49-8 446017-50-1

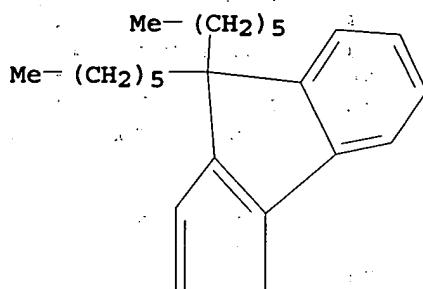
(high-performance polymer-based electrophosphorescent

light-emitting diodes)

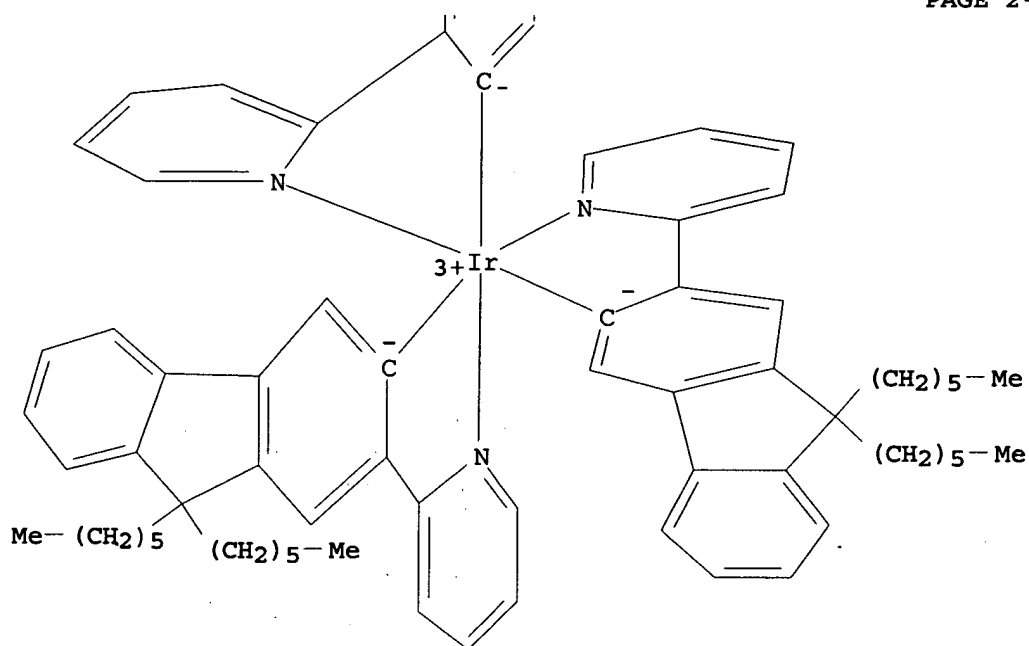
RN 446017-48-7 HCAPLUS

CN Iridium, tris[9,9-dihexyl-2-(2-pyridinyl-κN)-9H-fluoren-3-yl-κC]- (9CI) (CA INDEX NAME)

PAGE 1-A

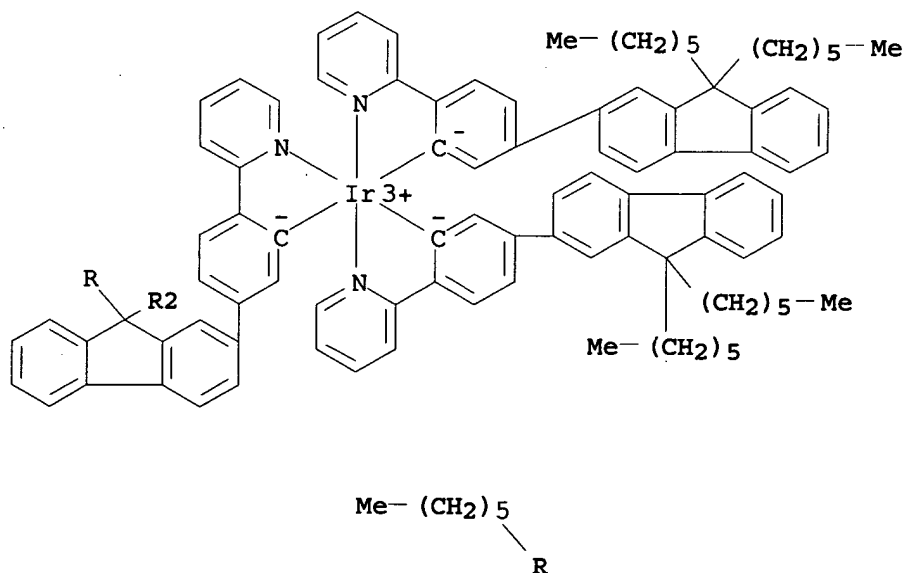


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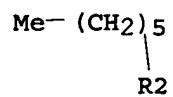


RN 446017-49-8 HCAPLUS
 CN Iridium, tris[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-(2-pyridinyl- κ N)phenyl- κ C]-(9CI) (CA INDEX NAME)

PAGE 1-A

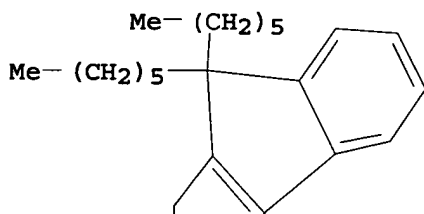


PAGE 2-A

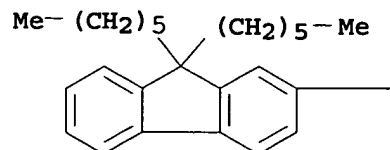


RN 446017-50-1 HCAPLUS
CN Iridium, tris[2-[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-pyridinyl-
κN]-9,9-dihexyl-9H-fluoren-3-yl-κC]- (9Cl) (CA INDEX
NAME)

PAGE 1-B



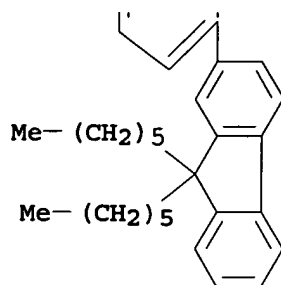
PAGE 2-A



The diagram shows a central $3+ \text{Ir}$ complex coordinated by five ligands. The ligands are: a 4-vinylpyridine derivative (top left), a 1-vinyl-2-(5-methylpent-1-en-1-yl)-1H-indene (bottom left), a 1-vinyl-2-(5-methylpent-1-en-1-yl)-1H-indene (bottom center), a 1-vinyl-2-(5-methylpent-1-en-1-yl)-1H-indene (bottom right), and a 1-vinyl-2-(5-methylpent-1-en-1-yl)-1H-indene (top right). The 1-vinyl-2-(5-methylpent-1-en-1-yl)-1H-indene ligands are labeled with $\text{Me}-(\text{CH}_2)_5$ and $(\text{CH}_2)_5-\text{Me}$ groups. The 1-vinyl-2-(5-methylpent-1-en-1-yl)-1H-indene ligand is labeled with $(\text{CH}_2)_5-\text{Me}$ groups. The 1-vinyl-2-(5-methylpent-1-en-1-yl)-1H-indene ligand is labeled with $(\text{CH}_2)_5-\text{Me}$ groups. The 1-vinyl-2-(5-methylpent-1-en-1-yl)-1H-indene ligand is labeled with $(\text{CH}_2)_5-\text{Me}$ groups.

Chemical structure of a fluorene derivative. The fluorene core has a substituent R at the 2-position and two long alkyl chains at the 9-position: one is $(CH_2)_5-Me$ and the other is $Me-(CH_2)_5$.

PAGE 3-B

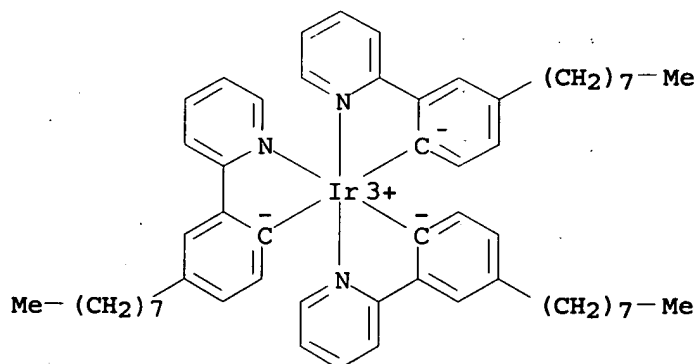


CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 76
 ST polymer based high performance electrophosphorescent light
 emitting diode
 IT Electroluminescent devices
 (high-performance polymer-based electrophosphorescent
 light-emitting diodes)
 IT 195456-48-5, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl) 382145-67-7
 446017-48-7 446017-49-8 446017-50-1
 (high-performance polymer-based electrophosphorescent
 light-emitting diodes)
 IT 15082-28-7
 (high-performance polymer-based electrophosphorescent
 light-emitting diodes)
 IT 25067-59-8, Poly(vinylcarbazole)
 (high-performance polymer-based electrophosphorescent
 light-emitting diodes)
 REFERENCE COUNT: 68 THERE ARE 68 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L33 ANSWER 18 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:850364 HCAPLUS
 DOCUMENT NUMBER: 140:43028
 TITLE: Energy transfer and triplet exciton
 confinement in polymeric electrophosphorescent
 devices
 AUTHOR(S): Chen, Fang-Chung; Chang, Shun-Chi; He, Gufeng;
 Pyo, Seungmoon; Yang, Yang; Kurotaki,
 Masayuki; Kido, Junji
 CORPORATE SOURCE: Department of Materials Science and
 Engineering, University of California at Los
 Angeles, Los Angeles, CA, 90095, USA
 SOURCE: Journal of Polymer Science, Part B: Polymer
 Physics (2003), 41(21), 2681-2690
 CODEN: JPBPEM; ISSN: 0887-6266
 PUBLISHER: John Wiley & Sons, Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Energy transfer and triplet exciton confinement in polymer/
 phosphorescent dopant systems were investigated. Various
 combinations of host-guest systems were studied, consisting of 2
 host polymers, poly(vinylcarbazole) (PVK) and poly[9,9-bis(octyl)-
 fluorene-2,7-diyl] (PF), blended with 5 different
 phosphorescent iridium complexes with different triplet
 energy levels. These combinations of hosts and dopants provide an

ideal situation for studying the movement of triplet excitons between the host polymers and dopants. The excitons either can be confined at the dopant sites or can flow to the host polymers, subject to the relative position of the triplet energy levels of the material. For PF, because of its low triplet energy level, the exciton can flow back from the dopants to PF when the dopant has a higher triplet energy and subsequently quench the device efficiency. In contrast, efficient electrophosphorescence was observed in doped PVK films because of the high triplet energy level of PVK. Better energy transfer from PVK to the dopants, as well as triplet exciton confinement on the dopants, leads to higher device performance than found in PF devices. Efficiencies as high as 16, 8.0, and 2.6 cd/A for green, yellow, and red emissions, resp., can be achieved when PVK is selected as the host polymer. The results in this study show that the energy transfer and triplet exciton confinement have a pronounced influence on the device performance. In addition, this study also provides material design and selection rules for the efficient phosphorescent polymer light-emitting diodes.

IT 474948-25-9
 (dopant; energy transfer and triplet exciton confinement in polymeric electrophosphorescent devices)
 RN 474948-25-9 HCAPLUS
 CN Iridium, tris[4-octyl-2-(2-pyridinyl-κN)phenyl-κC]-(9CI) (CA INDEX NAME)



CC 37-5 (Plastics Manufacture and Processing)
 Section cross-reference(s): 73
 ST electroluminescent device polymeric energy transfer
 triplet exciton confinement; polyvinylcarbazole LED energy
 transfer triplet exciton confinement; polydioctylfluorene LED
 energy transfer triplet exciton confinement
 IT Electric current-potential relationship
 HOMO (molecular orbital)
 LUMO (molecular orbital)
 Luminescence
 Luminescence, electroluminescence
 Oxidation potential
 Reduction potential
 Triplet state
 (energy transfer and triplet exciton confinement in polymeric
 electrophosphorescent devices)
 IT Electroluminescent devices

(polymeric; energy transfer and triplet exciton confinement in
polymeric electrophosphorescent devices)
IT 94928-86-6, Tris(2-phenylpyridine) iridium 337526-85-9,
Acetylacetonatobis[2-(2-pyridyl)phenyl]iridium 337526-88-2
343978-79-0 474948-25-9
(dopant; energy transfer and triplet exciton confinement in
polymeric electrophosphorescent devices)
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

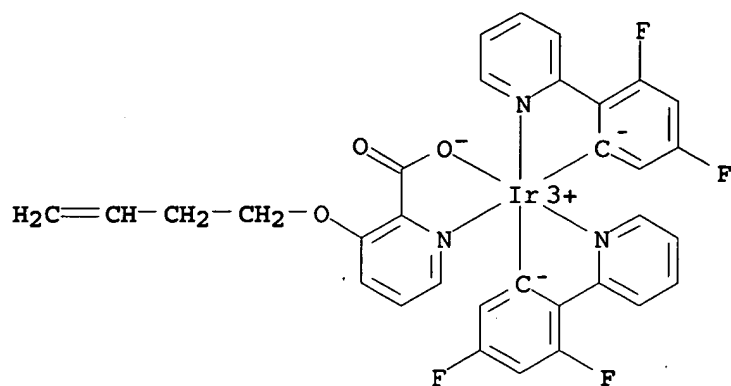
L33 ANSWER 19 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:658717 HCAPLUS
DOCUMENT NUMBER: 140:60644
TITLE: White light emission from polymer
light-emitting devices based
on blue and red phosphorescent
polymers
AUTHOR(S): Suzuki, Mitsunori; Tokito, Shizuo; Kamachi,
Motoaki; Shirane, Kourou; Sato, Fumio
CORPORATE SOURCE: NHK Science and Technical Research
Laboratories, Tokyo, 157-8510, Japan
SOURCE: Journal of Photopolymer Science and Technology
(2003), 16(2), 309-314
CODEN: JSTEOW; ISSN: 0914-9244
PUBLISHER: Technical Association of Photopolymers, Japan
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We demonstrate white light emission from polymer light-
emitting devices (PLEDs) that are based on
phosphorescent polymers consisting of a carbazole unit and
a blue or red emitting Ir complex unit. The PLED using red
phosphorescent polymer (RPP) or blue
phosphorescent polymer (BPP) emitted blue ($\lambda = 476$
nm) or red ($\lambda = 620$ nm) light which is assigned to radiative
relaxation from the triplet state of Ir complex units. High
external quantum efficiencies of 6.5%, and 6.9% were obtained in
the blue and red PLEDs, resp. To make the white PLED, both BPP
and RPP were used for the emissive layer, and the emission color
was tuned by controlling the concentration ratio of both
phosphorescent polymers. CIE coordinates of (0.34, 0.36)
and external quantum efficiency of 6.0% were obtained at 100
cd/m². This efficiency is the highest value in organic white-
light-emitting devices.

IT 638199-51-6 638199-53-8
(white light emission from polymer
light-emitting devices based on blue and red
phosphorescent polymers)
RN 638199-51-6 HCAPLUS
CN Iridium, [3-(3-butenyloxy)-2-pyridinecarboxylato-
κN1,κO2]bis[3,5-difluoro-2-(2-pyridinyl-
κN)phenyl-κC]-, polymer with 9-ethenyl-9H-carbazole
(9CI) (CA INDEX NAME)

CM 1

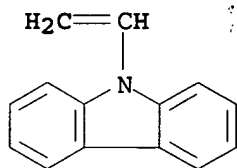
CRN 638199-50-5
CMF C32 H22 F4 Ir N3 O3
CCI CCS



CM 2

CRN 1484-13-5

CMF C14 H11 N



RN 638199-53-8 HCAPLUS

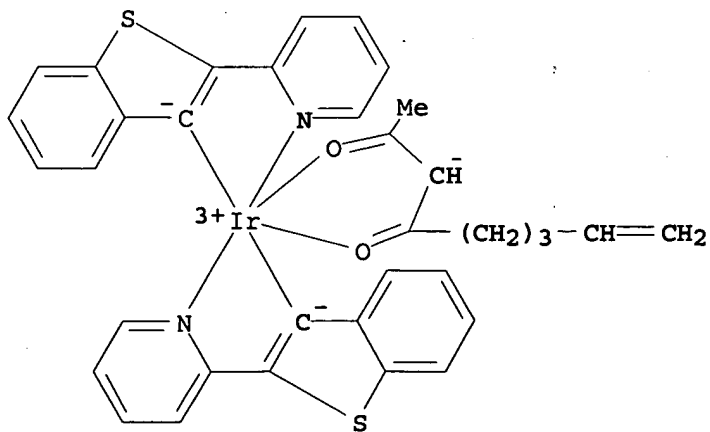
CN Iridium, (8-nonene-2,4-dionato-κO,κO')bis[2-(2-pyridinyl-κN)benzo[b]thien-3-yl-κC]-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

CM 1

CRN 638199-52-7

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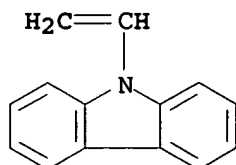
CCI CCS



CM 2

CRN 1484-13-5

CMF C14 H11 N



CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 76
 ST carbazole phosphorescent polymer light
 emitting device
 IT Electroluminescent devices
 Luminescence, electroluminescence
 Phosphorescence
 (white light emission from polymer light-
 emitting devices based on blue and red
 phosphorescent polymers)
 IT Light
 (white; white light emission from polymer light-
 emitting devices based on blue and red
 phosphorescent polymers)
 IT 61843-06-9
 (electron transport material; white light emission from polymer
 light-emitting devices based on blue and red
 phosphorescent polymers)
 IT 146162-54-1
 (hole and exciton blocking layer; white light emission from
 polymer light-emitting devices based on
 blue and red phosphorescent polymers)
 IT 638199-51-6 638199-53-8
 (white light emission from polymer
 light-emitting devices based on blue and red
 phosphorescent polymers)
 REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L33 ANSWER 20 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:676120 HCAPLUS
 DOCUMENT NUMBER: 137:239447
 TITLE: Luminescent polymers
 INVENTOR(S): Christou, Victor; Steudel, Annette Regine
 PATENT ASSIGNEE(S): Isis Innovation Limited, UK
 SOURCE: PCT Int. Appl., 38 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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 WO 2002068560 A1 20020906 WO 2002-GB821

2002
0226

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
 CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
 KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
 MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE,
 SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
 VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT,
 BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
 NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
 ML, MR, NE, SN, TD, TG

EP 1363980 A1 20031126 EP 2002-700479

2002
0226

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2004526024 T2 20040826 JP 2002-568657

2002
0226

US 2004113124 A1 20040617 US 2004-469205

2004
0105

PRIORITY APPLN. INFO.: GB 2001-4700 A

2001
0226

WO 2002-GB821

W

2002
0226

AB Monomers which luminesce in the visible region are described by the general formula $Mn+(L)n-(CL)x$ ($n+$ = the valency of M; (L) = ≥ 1 anionic ligands with a total valency of $n-$; ≥ 1 of the ligands is described by the formula $Ch-X-Y$; Ch = a chelating group which is a ligand fragment comprising the chelate binding sites and the part of the rest of the ligand with which the binding sites are conjugated; Y = an olefinic group; X = a spacer comprising a chain of ≥ 4 carbon and/or hetero atoms; $x = 0, 1$, or 2 ; CL = a neutral co-ligand; and M = a metal atom of Group 2, 12, 13, d-block or f-block with the proviso that if Y is part of a styrene or substituted styrene group then M is a d-block or f-block metal). Methods for preparing the monomers are described which entail deprotonating $Ch-X-Y$, and optionally 1 or 2 other anionic ligand compds., and reacting the deprotonated compound or compds. with a salt of the ion M , optionally in the presence of 1 or 2 neutral ligand compds. Polymers with repeating units described by the general formula $Mn+(L)n-(CL)x$, optionally with other olefinic monomers, are also described, as are processes for preparing them. Light-emitting devices are described which employ the polymers.

IT 457891-45-1P

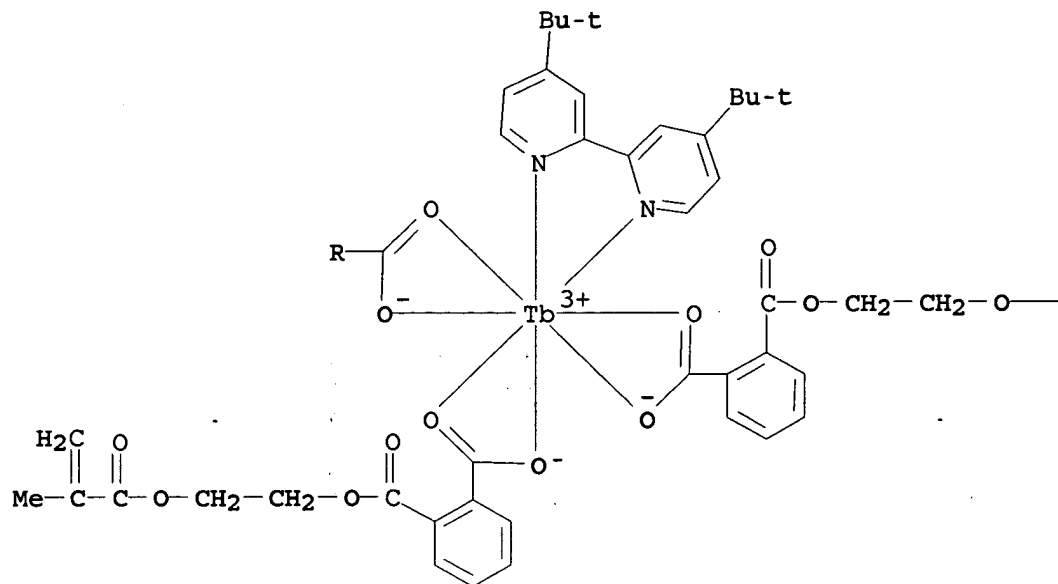
(luminescent metal-containing monomers and polymers and their preparation and use)

RN 457891-45-1 HCAPLUS

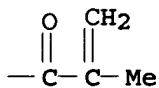
CN Terbium, [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine-

$\kappa N1, \kappa N1'$] tris [mono [2- [(2-methyl-1-oxo-2-propenyl)oxy]ethyl] 1,2-benzenedicarboxylato- $\kappa O2, \kappa O2'$] -
(9CI) (CA INDEX NAME)

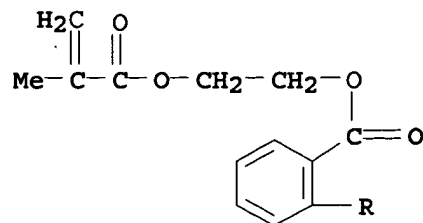
PAGE 1-A



PAGE 1-B



PAGE 2-A



IC ICM C09K011-06
 ICS C09K011-07; C09K011-46; C09K011-465; C09K011-467; H05B033-14
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38, 76
 IT 27697-00-3DP, complexes with europium and isoquinoline carboxylic acid 94805-04-6DP, Isoquinoline carboxylic acid, complexes with samarium and 2-(Methacryloyloxy)ethyl phthalic acid 457891-39-3P
 457891-41-7P 457891-42-8P 457891-43-9P 457891-44-0P
 457891-45-1P 457891-46-2P 457891-47-3P 457891-48-4P
 457891-49-5P

(luminescent metal-containing monomers and polymers and their preparation and use)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 21 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:658413 HCAPLUS

DOCUMENT NUMBER: 137:208158

TITLE: Aryl-aryl dendrimers

INVENTOR(S): Burn, Paul Leslie; Samuel, Ifor David William; Lo, Shin-Chun

PATENT ASSIGNEE(S): Isis Innovation Limited, UK

SOURCE: PCT Int. Appl., 51 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002067343	A1	20020829	WO 2002-GB739	2002 0220

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1362382	A1	20031119	EP 2002-700448	2002 0220
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 JP 2004534865 T2 20041118 JP 2002-566566

US 2004169463	A1	20040902	US 2004-468681	2004 0120
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PRIORITY APPLN. INFO.:

GB 2001-4177

A

2001
0220

WO 2002-GB739

W

2002
0220

AB Light-emitting devices are described which incorporate, as the light-emitting element, a dendrimer of which the constituent dendrons include a conjugated dendritic structure comprising aryl and/or heteroaryl groups connected to each other via bonds between sp² hybridized ring atoms of the aryl or heteroaryl groups. Films of the compds. and color display devices using the compds. are described, as is the use of the compds. in semiconducting devices other than light-emitting devices (e.g., a photodiode, solar cell, FET, or solid-state triode). Methods of manufacturing the light-emitting devices are also described.

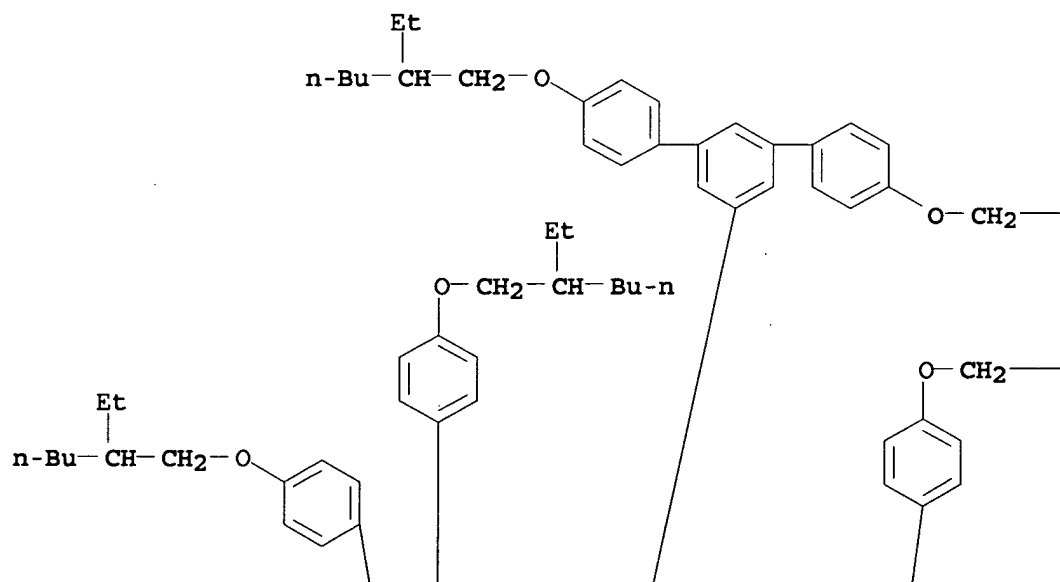
IT 452916-51-7P

(light-emitting devices incorporating aryl-aryl dendrimers and the fabrication and films and devices incorporating the dendrimers)

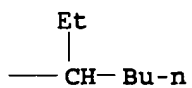
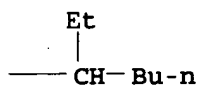
RN 452916-51-7 HCAPLUS

CN Zinc, [5,10,15,20-tetrakis[4,4''-bis[(2-ethylhexyl)oxy][1,1':3',1''-terphenyl]-5'-yl]-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI)
(CA INDEX NAME)

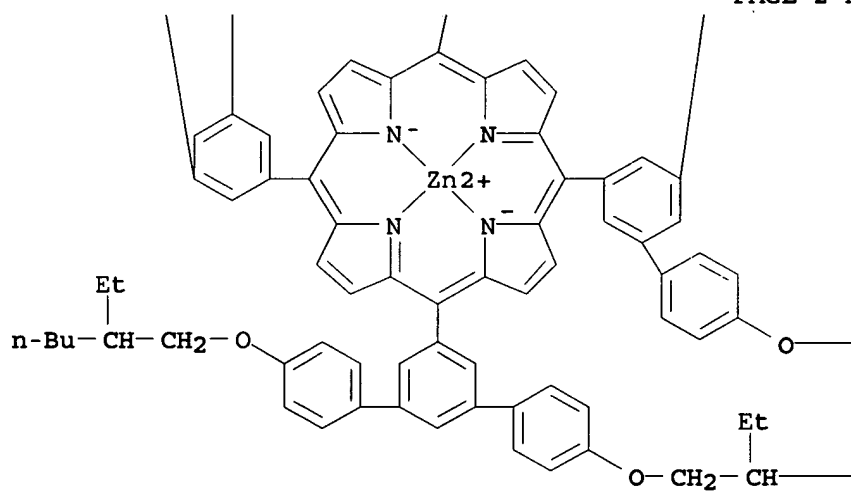
PAGE 1-A



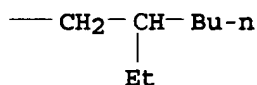
PAGE 1-B



PAGE 2-A



PAGE 2-B



--- Bu-n

IC ICM . H01L051-30
ICS C08G083-00
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 52, 76
IT 452914-19-1P 452914-20-4P 452914-30-6P 452914-32-8P
452914-35-1P 452916-51-7P 452962-94-6P
(light-emitting devices incorporating
aryl-aryl dendrimers and the fabrication and films and devices
incorporating the dendrimers)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L33 ANSWER 22 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:658190 HCAPLUS
DOCUMENT NUMBER: 137:208156
TITLE: Metal-containing dendrimers
INVENTOR(S): Burn, Paul Leslie; Christou, Victor; Lo, Shi-Chun; Pillow, Jonathan Nigel Gerard; Lupton, John Mark; Samuel, Ifor David William
PATENT ASSIGNEE(S): Isis Innovation Limited, UK
SOURCE: PCT Int. Appl., 77 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2002066552	A1	20020829	WO 2002-GB750	

2002
0220

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,

MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE,
 SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
 VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT,
 BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
 NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
 ML, MR, NE, SN, TD, TG

CA 2438745	AA	20020829	CA 2002-2438745	2002 0220
EP 1366113	A1	20031203	EP 2002-700455	2002 0220
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1492904	A	20040428	CN 2002-805237	2002 0220
JP 2004530254	T2	20040930	JP 2002-566264	2002 0220
US 2004137263	A1	20040715	US 2004-468716	2004 0213
PRIORITY APPLN. INFO.:				2001 0220
GB 2001-4175				A
GB 2001-6307				A 2001 0314
WO 2002-GB750				W 2002 0220

AB **Light-emitting devices** are described which comprise ≥ 1 layer that contains an organometallic dendrimer with a metal cation as part of its core, the core not comprising a magnesium-chelated porphyrin. Organometallic dendrimers which comprise a metal cation as part of its core and ≥ 2 dendrons are described in which ≥ 1 of the dendrons is conjugated, the dendrimer is **luminescent** in the solid state, and the core does not comprise a magnesium-chelated porphyrin. Blends of the organometallic dendrimers and a corresponding nonmetallic dendrimer having the same dendritic structure as that of the organometallic dendrimer are also described. Methods for producing dendrimers are described which entail providing a core by forming a complex between a metal cation and ≥ 2 coordinating groups, at least two of the the groups bearing a reactive functionality; and treating the core thus provided with ≥ 2 dendrons which were functionalized to render them reactive towards the reactive functionalities present in the core, ≥ 1 of the dendrons being conjugated. Methods for producing dendrimers are also described which entail attaching a coordinating group to each of ≥ 2 dendrons; forming a complex between the coordinating groups and a metal cation; and optionally further treating the complex with ≥ 1 addnl. coordinating ligands.

IT 453538-19-7P 453538-20-0P 453538-22-2P

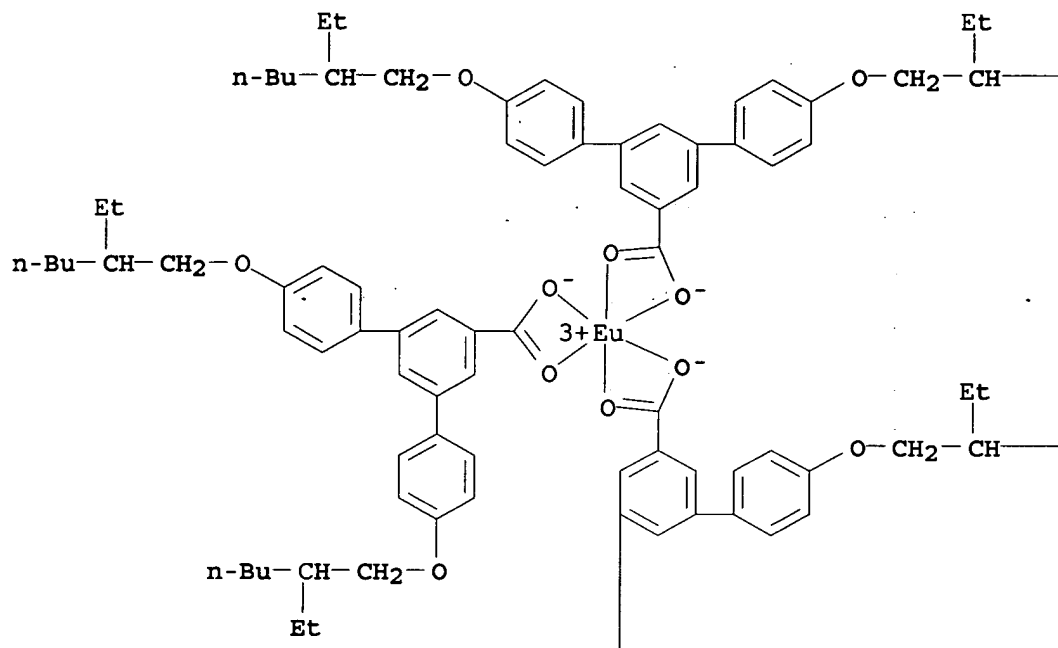
453538-23-3P 453538-24-4P 453538-25-5P

(metal-containing dendrimers and their production and blends containing them and light-emitting devices using them)

RN 453538-19-7 HCAPLUS

CN Europium, tris[4,4''-bis[(2-ethylhexyl)oxy][1,1':3',1''-terphenyl]-5'-carboxylato- $\kappa O, \kappa O'$]-, (OC-6-11)- (9CI) (CA INDEX NAME)

PAGE 1-A

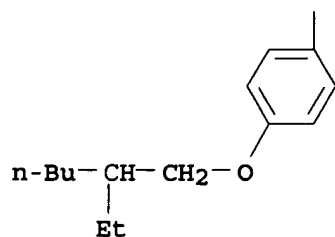


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— Bu-n

— Bu-n

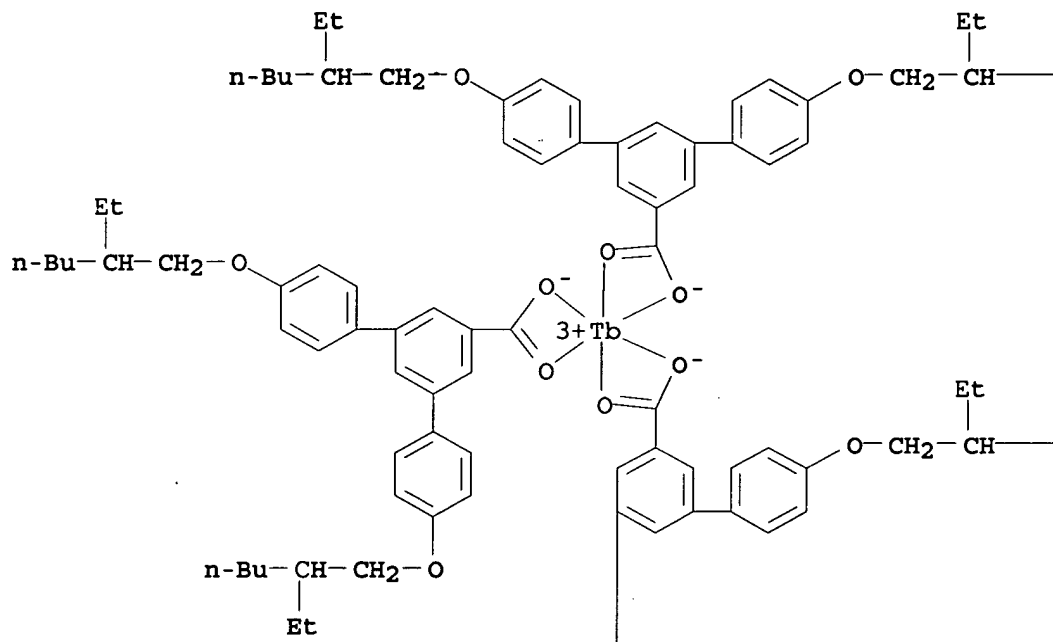
PAGE 2-A



RN 453538-20-0 HCAPLUS

CN Terbium, tris[4,4''-bis[(2-ethylhexyl)oxy] [1,1':3',1''-terphenyl] - 5'-carboxylato- $\kappa\text{O},\kappa\text{O}'$]-, (OC-6-11) - (9CI) (CA INDEX NAME)

PAGE 1-A

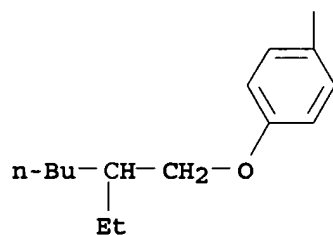


PAGE 1-B

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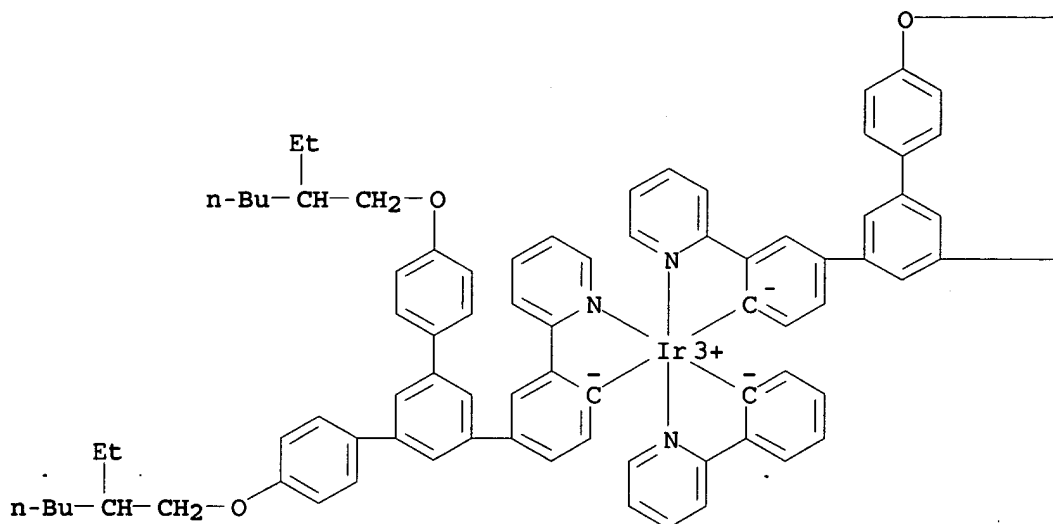
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PAGE 2-A

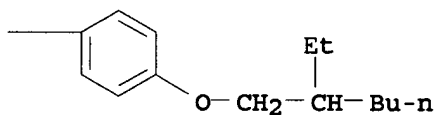
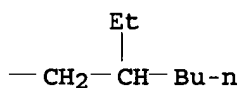


RN 453538-22-2 HCAPLUS
 CN Iridium, bis[4''-[(2-ethylhexyl)oxy]-5'-[4-[(2-ethylhexyl)oxy]phenyl]-3-(2-pyridinyl-κN) [1,1':3',1''-terphenyl]-4-yl-κC] [2-(2-pyridinyl-κN)phenyl-κC] - , (OC-6-43) - (9CI) (CA INDEX NAME)

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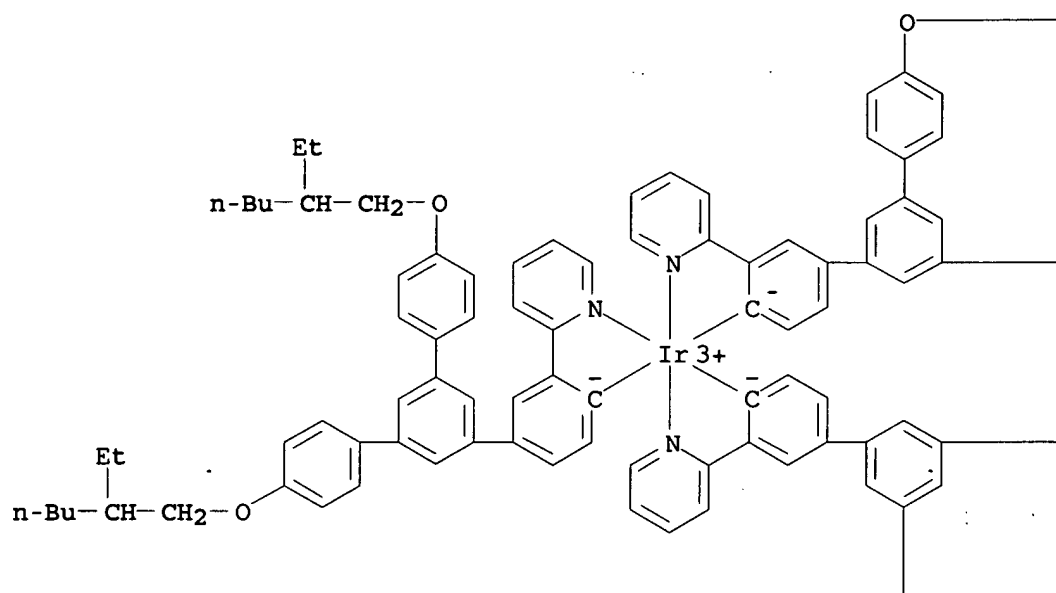


PAGE 1-B

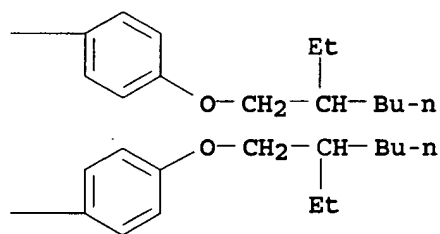
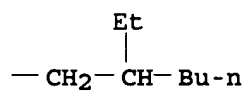


RN 453538-23-3 HCAPLUS
 CN Iridium, tris[4''-[(2-ethylhexyl)oxy]-5'-[4-[(2-ethylhexyl)oxy]phenyl]-3-(2-pyridinyl-κN)[1,1':3',1''-terphenyl]-4-yl-κC]-, (OC-6-22)-(9CI) (CA INDEX NAME)

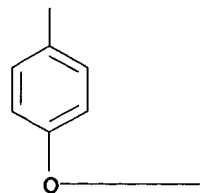
PAGE 1-A



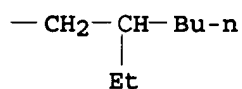
PAGE 1-B



PAGE 2-A

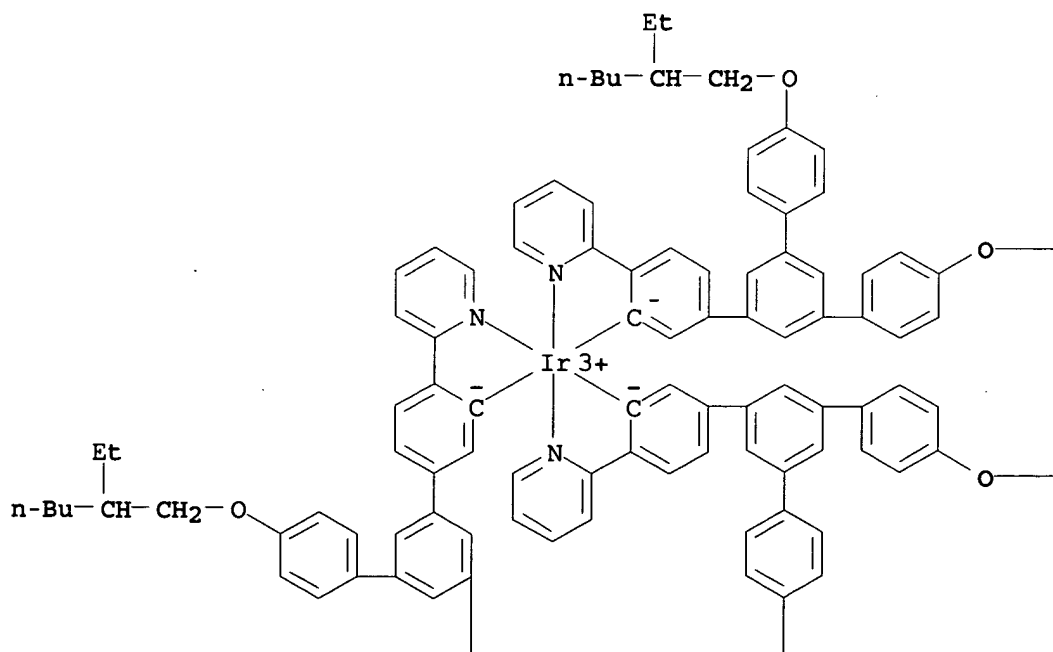


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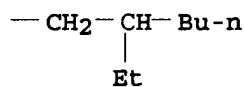
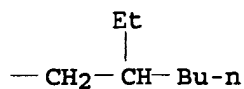


RN 453538-24-4 HCAPLUS
 CN Iridium, tris[4'''-[(2-ethylhexyl)oxy]-5'-[4-[(2-ethylhexyl)oxy]phenyl]-4-(2-pyridinyl-κN) [1,1':3',1''-terphenyl]-3-yl-κC]-, (OC-6-22)- (9CI) (CA INDEX NAME)

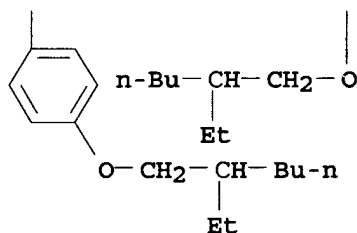
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PAGE 1-B

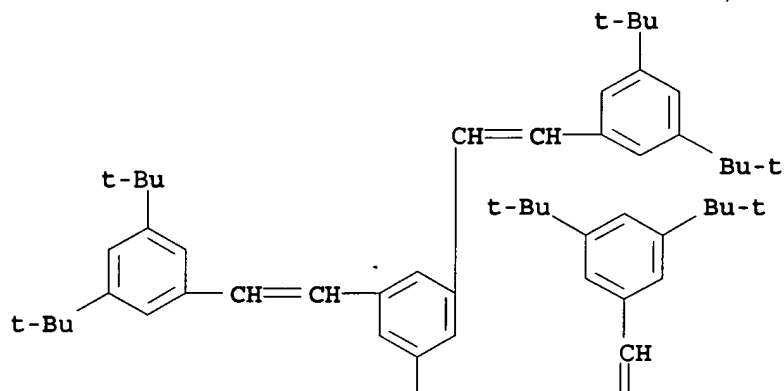


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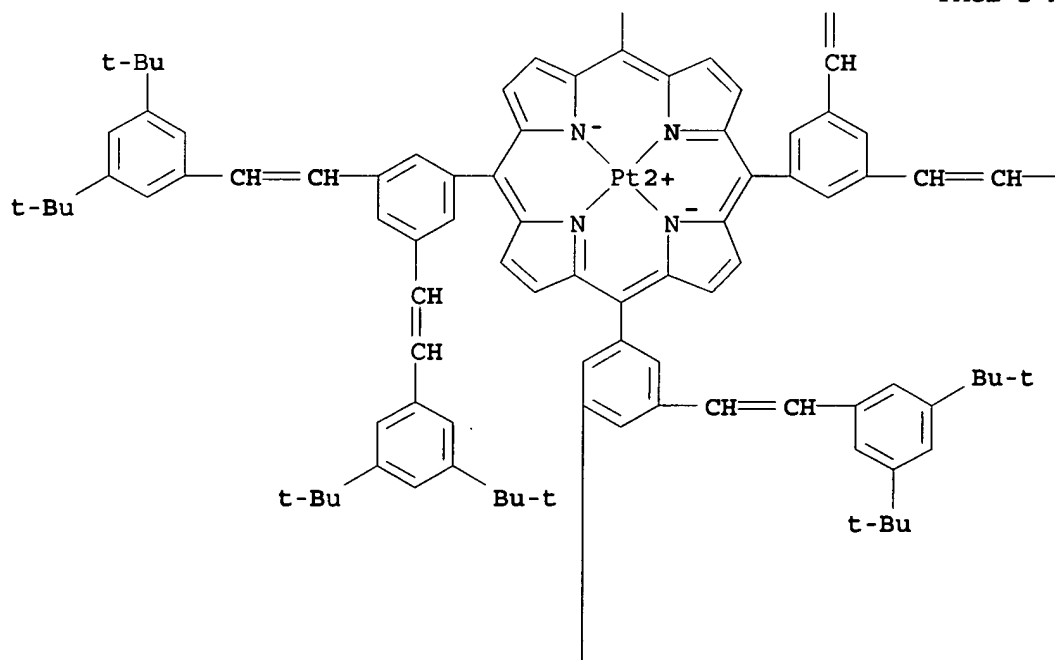


RN 453538-25-5 HCAPLUS
 CN Platinum, [5,10,15,20-tetrakis[3,5-bis[2-[3,5-bis(1,1-dimethylethyl)phenyl]ethenyl]phenyl]-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)-(9CI)
 (CA INDEX NAME)

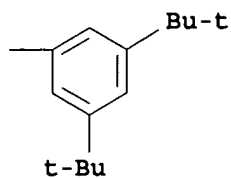
PAGE 1-A



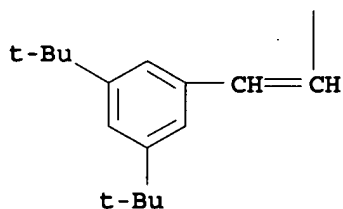
PAGE 2-A



PAGE 2-B



PAGE 3-A

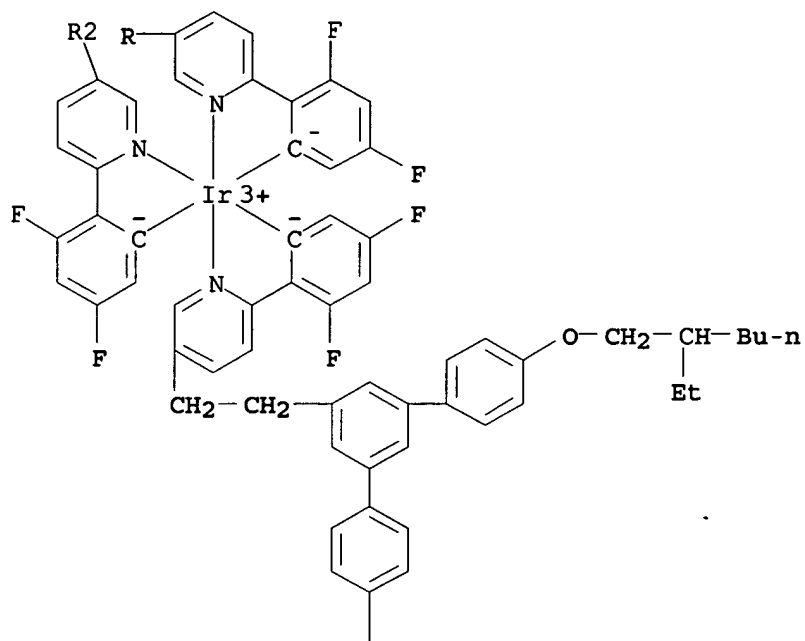


IT 453538-27-7P
(metal-containing dendrimers and their production and blends containing them and **light-emitting** devices using them)

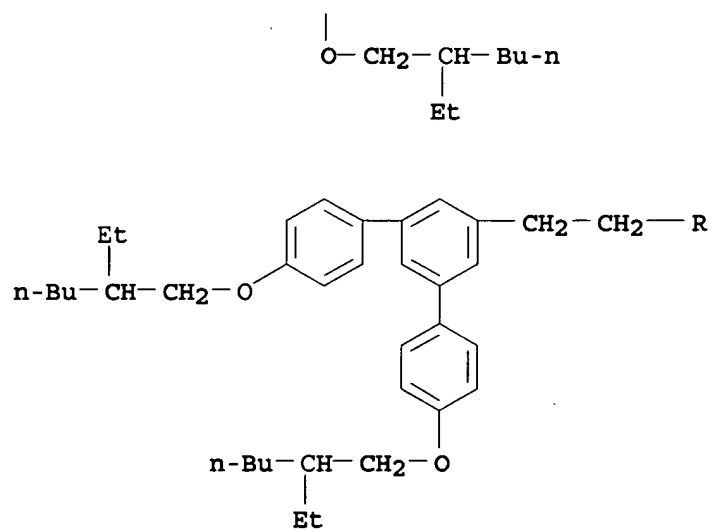
RN 453538-27-7 HCAPLUS

CN Iridium, tris[2-[5-[2-[4,4''-bis[(2-ethylhexyl)oxy][1,1':3',1''-terphenyl]-5'-yl]ethyl]-2-pyridinyl-κN]-3,5-difluorophenyl-κC]-, (OC-6-22)- (9CI) (CA INDEX NAME)

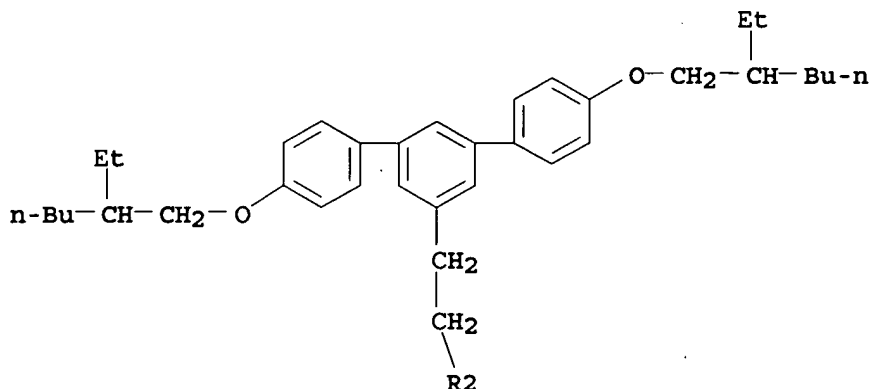
PAGE 1-A



PAGE 2-A



PAGE 3-A



- IC ICM C08K005-56
ICS C09K011-00; C09K011-06; H01L051-00; H01L051-30; C08G083-00
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 37, 76, 78
- ST organometallic dendrimer light emitting device
- IT Luminescent substances
(electroluminescent; metal-containing dendrimers and their production and blends containing them and light-emitting devices using them)
- IT Electroluminescent devices
(metal-containing dendrimers and their production and blends containing them and light-emitting devices using them)
- IT Dendritic polymers
Organometallic compounds
(metal-containing dendrimers and their production and blends containing them and light-emitting devices using them)
- IT 66-71-7D, 1,10-Phenanthroline, reaction products with organometallic dendrimers 366-18-7D, 2,2'-Dipyridyl, reaction products with organometallic dendrimers 4733-39-5D, Bathocuproin, reaction products with organometallic dendrimers 11104-93-1D, Nitrogen oxide, reaction products with organometallic dendrimers 72914-19-3D, reaction products with organometallic dendrimers
(metal-containing dendrimers and their production and blends containing them and light-emitting devices using them)
- IT 340026-47-3 454180-93-9
(metal-containing dendrimers and their production and blends containing them and light-emitting devices using them)
- IT 453530-55-7P 453538-19-7P 453538-20-0P
453538-22-2P 453538-23-3P 453538-24-4P
453538-25-5P 453538-26-6P 453559-39-2P 453560-17-3P
(metal-containing dendrimers and their production and blends containing them and light-emitting devices using them)
- IT 106-41-2, 4-Bromophenol 109-04-6, 2-Bromopyridine 121-43-7, Trimethyl borate 626-39-1, 1,3,5-Tribromobenzene 1008-89-5, 2-Phenylpyridine 1184-63-0, Europium trisacetate 1461-22-9 1791-26-0, 4-Vinylbenzaldehyde 4316-58-9, Tris(4-bromophenyl)amine 5467-74-3, 4-Bromophenylboronic acid 6825-20-3, 3,6-Dibromocarbazole 7511-49-1 7646-69-7, Sodium hydride 10025-83-9, Iridium trichloride 25519-07-7, Terbium trisacetate 40000-20-2 56990-02-4, 3,5-Dibromobenzaldehyde

61676-62-8, 2-Isopropoxy-4,4,5,5-tetramethyl-1,3,2-dioxaborolane
89598-96-9, 3-Bromophenylboronic acid 223574-14-9 240810-88-2
453530-49-9

(metal-containing dendrimers and their production and blends containing them and light-emitting devices using them)

IT 4373-60-8P 63996-36-1P 164352-24-3P 355017-81-1P
355017-82-2P 452369-35-6P 452369-36-7P 452369-39-0P
453524-83-9P 453530-44-4P 453530-45-5P 453530-46-6P
453530-47-7P 453530-48-8P 453530-50-2P 453530-53-5P
453530-54-6P 453530-56-8P 453530-70-6P 453538-21-1P
453538-27-7P 453560-26-4P

(metal-containing dendrimers and their production and blends containing them and light-emitting devices using them)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L33 ANSWER 23 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:335772 HCAPLUS

DOCUMENT NUMBER: 137:176442

TITLE: High-efficiency polymer-based
electrophosphorescent devices

AUTHOR(S): Gong, Xiong; Robinson, Matthew R.; Ostrowski,
Jacek C.; Moses, Daniel; Bazan, Guillermo C.;
Heeger, Alan J.

CORPORATE SOURCE: Institute for Polymers and Organic Solids,
Santa Barbara, CA, 93106-5096, USA

SOURCE: Advanced Materials (Weinheim, Germany) (2002),
14(8), 581-585

CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

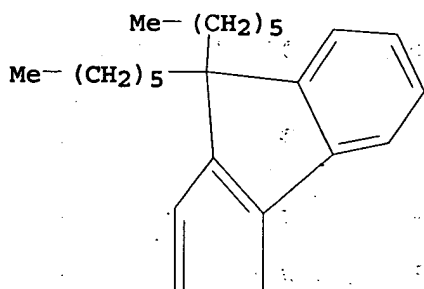
AB High-efficiency electrophosphorescent organic light-
emitting diodes (OLEDs) were fabricated by doping
tris[9,9-dihexyl-2-(pyridinyl-2')fluorene] iridium(III) [Ir(DPF)3]
into a host polymer matrix of poly(N-vinylcarbazole) blended with
the electron transport mol., 2-(4-biphenyl)-5-(4-tert-
butylphenyl)-1,3,4-oxadiazole (PBD). At 0.3 wt% Ir(DPF)3 in
PVK-PBD (40 wt%), the highest external quantum efficiency was 10%
photon/electron. The highest luminous efficiency of 36
cd/A was detected at 45 V. The operating voltage of the
electrophosphorescence increased with increasing Ir(DPF)3 concentration
Brightness in excess of 8000 cd/m2 was achieved at 75 mA/cm2.

IT 446017-48-7
(film, dopant; high-efficiency polymer-based
electrophosphorescent devices containing)

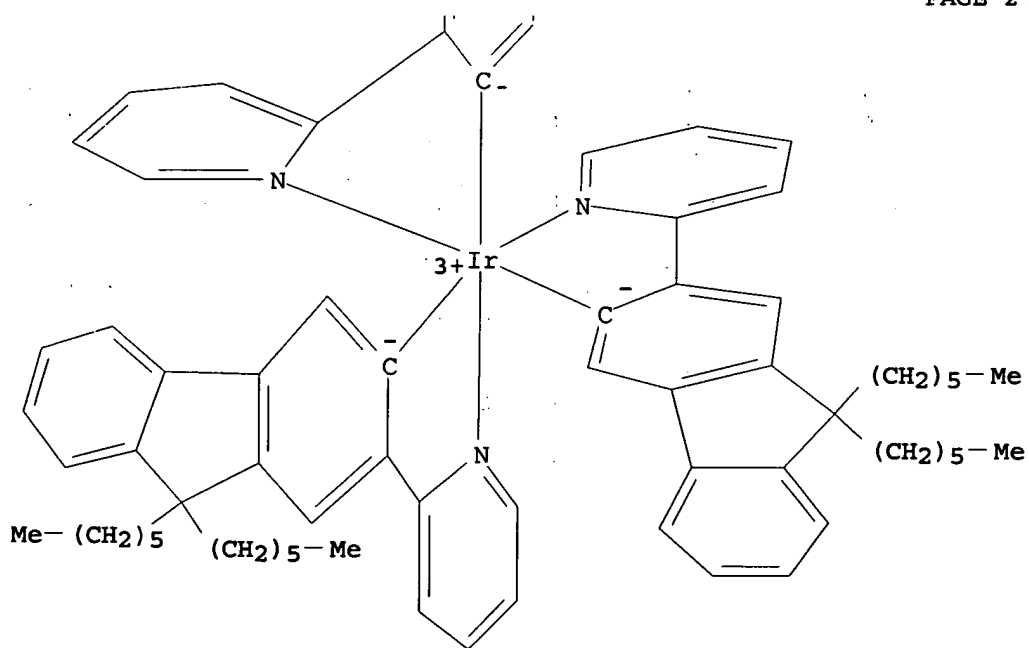
RN 446017-48-7 HCAPLUS

CN Iridium, tris[9,9-dihexyl-2-(2-pyridinyl-κN)-9H-fluoren-3-yl-
κC] - (9CI) (CA INDEX NAME)

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PAGE 2-A



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38, 76

IT Electric current-potential relationship
Luminescence, electroluminescence
(high-efficiency polymer-based electrophosphorescent devices)

IT Luminescence
(of Ir(DPF)3 and PVK-PBD films and of Ir(DPF)3-doped PVK-PBD)

IT Electroluminescent devices
(yellow-green; high-efficiency polymer-based
electrophosphorescent devices)

IT 446017-48-7
(film, dopant; high-efficiency polymer-based
electrophosphorescent devices containing)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L33 ANSWER 24 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:227363 HCAPLUS

DOCUMENT NUMBER: 137:69875

TITLE: Highly efficient electrophosphorescent devices
based on conjugated polymers doped with
iridium complexes

AUTHOR(S): Zhu, Weiguo; Mo, Yueqi; Yuan, Min; Yang, Wei;
Cao, Yong

CORPORATE SOURCE: Institute of Polymer Optoelectronic Material
and Devices, South China University of
Technology, Canton, 510640, Peop. Rep. China

SOURCE: Applied Physics Letters (2002), 80(12),
2045-2047
CODEN: APPLAB; ISSN: 0003-6951

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

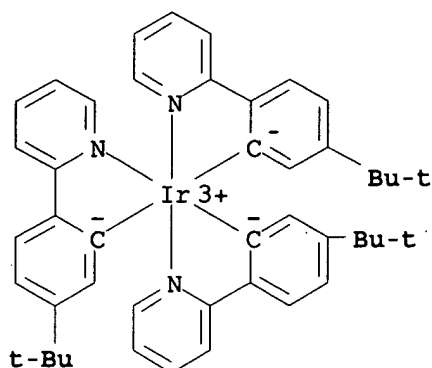
LANGUAGE: English

AB Iridium complexes with alkyl substituted 2-phenylpyridine,
Ir(Bu-PPy)3, were synthesized. Polymer light
emitting diodes with Ir complexes as the guest materials
and the substituted polyphenylenes as the host were fabricated.
Ir(Bu-PPy)3-doped Poly(2-(6-cyano-6-methyl)-heptyloxy-1,4-
phenylene) (CNPPP) device showed generally higher quantum
efficiency (QE) than that of Ir(PPy)3-doped device for a given
dopant concentration. More importantly, the addition of Bu group into
phenylpyridine ligand significantly suppresses the decay of device
efficiency at high c.d. For instance, for devices made with
Ir(Bu-PPy)3-doped CNPPP: the maximum external quantum efficiency, QE,
and luminance efficiency reached 5.1% ph/el and 12 cd/A,
resp., at 800 cd/m2 and maintained at 4.2% ph/el and 10 cd/A,
resp., at 2500 cd/m2.

IT 359014-76-9
(film, polymer doped with; highly efficient
electrophosphorescent devices based on conjugated polymers
doped with iridium complexes)

RN 359014-76-9 HCAPLUS

CN Iridium, tris[5-(1,1-dimethylethyl)-2-(2-pyridinyl-κN)phenyl-
κC] - (9CI) (CA INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38, 76, 78
 IT **Phosphorescent substances**
 (electro-; highly efficient electrophosphorescent devices based on conjugated polymers doped with iridium complexes)
 IT **Electroluminescent devices**
Luminescence, electroluminescence
 (highly efficient electrophosphorescent devices based on conjugated polymers doped with iridium complexes)
 IT **Luminescence**
 (of tris(2-phenylpyridine)iridium-doped CNPPP films)
 IT 94928-86-6, Tris(2-phenylpyridine)iridium 359014-76-9
 (film, polymer doped with; highly efficient electrophosphorescent devices based on conjugated polymers doped with iridium complexes)
 REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 25 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:590543 HCAPLUS
 DOCUMENT NUMBER: 131:352001
 TITLE: Effect of aliphatic tails on surface anchoring of amphiphilic ruthenium-polypyridine complexes in water-cast polymer films as studied by photoinduced electron-transfer and optical second harmonic generation
 AUTHOR(S): Yamada, S.; Niidome, Y.; Nakano, T.; Tanaka, Y.-k.; Shimada, Y.; I-Yin Lee, S.; Matsuo, T.
 CORPORATE SOURCE: Higashi-ku, Hakozaki, Department of Materials Physics and Chemistry, Kyushu University, Fukuoka, Japan
 SOURCE: Thin Solid Films (1999), 352(1,2), 1-5
 CODEN: THSFAP; ISSN: 0040-6090
 PUBLISHER: Elsevier Science S.A.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A thin poly(Me methacrylate) (PMMA) film incorporating an amphiphilic ruthenium (Ru)-polypyridine complex having two (Ru2Cl6B) or four (Ru4Cl6B) aliphatic tails, and/or an amphiphilic viologen (LPV), was prepared on a water surface. Both interfacial and in-film photoinduced electron-transfer from the Ru-complex to LPV occurred more effectively in Ru2Cl6B as compared with Ru4Cl6B,

suggesting more exposure of the hydrophilic head group of Ru2C16B at the film surface. Polarized optical second harmonic generation (SHG) studies on the Ru-complex-impregnated film also verified orientational difference between the two complexes; Ru4C16B tended to take more stand-up orientation as to the film surface. The SHG signal increased quadratically with the number of films in the presence of air gaps among them.

IT 76484-33-8 250277-34-0

(effect of aliphatic tails on surface anchoring of amphiphilic ruthenium-polypyridine complexes in water-cast PMMA films as studied by photoinduced electron-transfer and optical second harmonic generation)

RN 76484-33-8 HCAPLUS

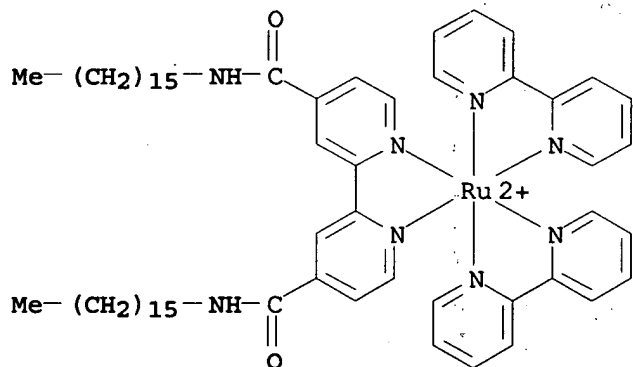
CN Ruthenium(2+), bis(2,2'-bipyridine- κ N1, κ N1') (N,N'-dihexadecyl[2,2'-bipyridine]-4,4'-dicarboxamide- κ N1, κ N1')-, (OC-6-22)-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 76484-32-7

CMF C64 H90 N8 O2 Ru

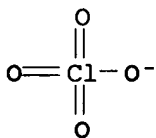
CCI CCS



CM 2

CRN 14797-73-0

CMF Cl O4



RN 250277-34-0 HCAPLUS

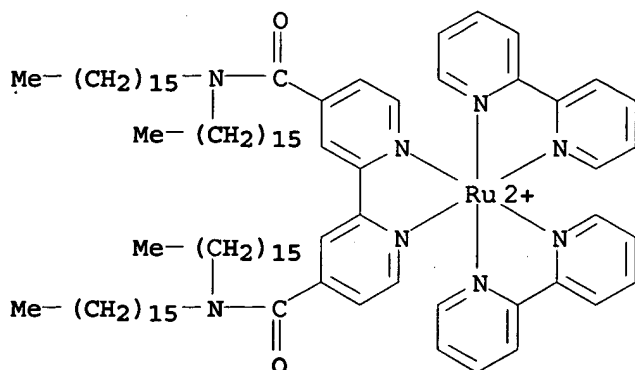
CN Ruthenium(2+), bis(2,2'-bipyridine- κ N1, κ N1') (N,N',N',N'-tetrahexadecyl[2,2'-bipyridine]-4,4'-dicarboxamide- κ N1, κ N1')-, (OC-6-22)-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 250277-33-9

CMF C96 H154 N8 O2 Ru

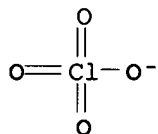
CCI CCS



CM 2

CRN 14797-73-0

CMF Cl O4



CC 37-5 (Plastics Manufacture and Processing)

Section cross-reference(s): 73

IT Absorption spectra

Luminescence quenching

Photoinduced electron transfer

Second-harmonic generation

(effect of aliphatic tails on surface anchoring of amphiphilic ruthenium-polypyridine complexes in water-cast PMMA films as studied by photoinduced electron-transfer and optical second harmonic generation)

IT 76484-33-8 220076-79-9 250277-34-0

(effect of aliphatic tails on surface anchoring of amphiphilic ruthenium-polypyridine complexes in water-cast PMMA films as studied by photoinduced electron-transfer and optical second harmonic generation)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 26 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:7530 HCAPLUS

DOCUMENT NUMBER: 130:140177

TITLE: Photochemical responses of asymmetrically self-organized molecular films prepared on a

water surface
 AUTHOR(S): Yamada, Sunao; Tanaka, Yu-Ki; Kawazu, Mitsuhiro; Matsuo, Taku
 CORPORATE SOURCE: Department of Materials Physics and Chemistry, Kyushu University, Fukuoka, 812-81, Japan
 SOURCE: Supramolecular Science (1998), 5(3-4), 379-382
 CODEN: SUSCFX; ISSN: 0968-5677
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Ultrathin polymer films incorporating amphiphilic ruthenium (II) polypyridine complex (Ru2C16B) or viologen (LPV) were prepared by casting a mixed solution on a water surface. Interfacial photoinduced energy-transfer from coumarin dye (CoD) on the glass plate to Ru2C16B in the polymer film indicated asym. population of Ru2C16B at a single surface of the film. Photoinduced electron-transfer from Ru2C16B to LPV across the films also verified asym. enrichment of these amphiphilic dyes. The results establish a novel and simple method of asym. self-organization of amphiphilic dyes in the thin polymer film.

IT 76484-33-8
 (photochem. responses of asym. self-organized mol. films prepared on a water surface)

RN 76484-33-8 HCAPLUS

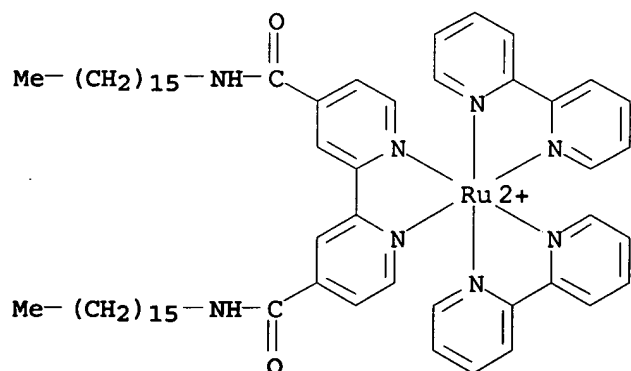
CN Ruthenium(2+), bis(2,2'-bipyridine-κN1,κN1') (N,N'-dihexadecyl[2,2'-bipyridine]-4,4'-dicarboxamide-κN1,κN1')-, (OC-6-22)-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 76484-32-7

CMF C64 H90 N8 O2 Ru

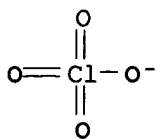
CCI CCS



CM 2

CRN 14797-73-0

CMF C1 O4



CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 74
 IT Electron transfer
 Emission spectra
 Energy level excitation
 Luminescence quenching
 Photoinduced energy transfer
 (photochem. responses of asym. self-organized mol. films prepared on a water surface)
 IT 91-44-1, Coumarin 1 9002-86-2, PVC 9011-14-7, PMMA
 76484-33-8 220076-79-9
 (photochem. responses of asym. self-organized mol. films prepared on a water surface)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 27 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1998:102556 HCAPLUS
 DOCUMENT NUMBER: 128:193177
 TITLE: Temperature effects on molecular alignments at the surface of ultrathin films studied by SHG and fluorescence techniques
 AUTHOR(S): Lee, I-Yin Sandy; Niidome, Yasuro; Matsuo, Taku; Yamada, Sunao
 CORPORATE SOURCE: Department of Chemical Science and Technology, Kyushu University, Fukuoka, 812-81, Japan
 SOURCE: Analytical Sciences (1997), 13(Suppl., Asianalysis IV), 343-346
 CODEN: ANSCEN; ISSN: 0910-6340
 PUBLISHER: Japan Society for Analytical Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Poly(Me methacrylate) (PMMA) thin films incorporating amphiphilic dyes, ruthenium tris(2,2-bipyridine)-type complexes, were prepared by water casting. Films fabricated in this manner are peculiar with their well lined-up mol. orientations at the surface and thus are highly nonlinear effective. Unfortunately, like most other nonlinear materials, the surface orders of the dye mols. tend to collapse once exposed to heat. This work presents our recent studies on heat-induced mol. reorientation by probing secondary harmonic generation (SHG) and fluorescence spectra. It shows that, in the course of heating between 20 °C and 800C, the secondary glass transition of PMMA mols. is responsible for both the randomization of the surface alignments of the Ru complex kmols. and the migration of these mols. into the body of the PMMA layer.

IT 76484-33-8
 (temperature effects on mol. alignments of ruthenium complex dyes PMMA ultrathin film surface films studied by SHG and fluorescence techniques)

RN 76484-33-8 HCAPLUS

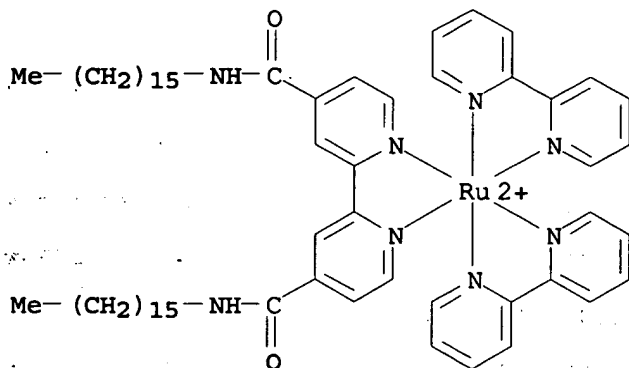
CN Ruthenium(2+), bis(2,2'-bipyridine-κN1,κN1') (N,N'-
dihexadecyl[2,2'-bipyridine]-4,4'-dicarboxamide-
κN1,κN1')-, (OC-6-22)-, diperchlorate (9CI) (CA INDEX
NAME)

CM 1

CRN 76484-32-7

CMF C64 H90 N8 O2 Ru

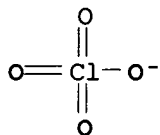
CCI CCS



CM 2

CRN 14797-73-0

CMF Cl O4



CC 37-5 (Plastics Manufacture and Processing)

Section cross-reference(s): 73

ST temp effect PMMA ruthenium dye alignment; glass temp PMMA
ruthenium dye alignment; second harmonic generation PMMA
orientation temp; fluorescence PMMA orientation temp

IT Fluorescence

Glass transition temperature

Second-harmonic generation

(temperature effects on mol. alignments of ruthenium complex dyes

PMMA ultrathin film surface films studied by SHG and

fluorescence techniques)

IT 88761-65-3

(fluorescence of PMMA containing)

IT 9011-14-7, Pmma 76484-33-8

(temperature effects on mol. alignments of ruthenium complex dyes

PMMA ultrathin film surface films studied by SHG and

fluorescence techniques)

REFERENCE COUNT:

9

THERE ARE 9 CITED REFERENCES AVAILABLE

FOR THIS RECORD. ALL CITATIONS AVAILABLE

IN THE RE FORMAT

L33 ANSWER 28 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:69755 HCAPLUS
DOCUMENT NUMBER: 126:96641
TITLE: Luminescent polymer beads
INVENTOR(S): Heiliger, Ludger; Podszun, Wolfgang
PATENT ASSIGNEE(S): Bayer A.-G., Germany
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 19530769	A1	19961128	DE 1995-19530769	1995 0822
PRIORITY APPLN. INFO.:			DE 1995-19530769 . A1	1995 0822
			DE 1995-19519003	1995 0524

OTHER SOURCE(S): MARPAT 126:96641
AB Luminescent polymer beads having an average diameter of 0.02-10.0 μ m are described which incorporate 0.001-25 weight% (based on the bead) of a luminescent rare earth complex which is not covalently bound to the polymer. Methods for preparing the beads entail forming an emulsion from monomers and the rare earth complex and polymerizing the monomers. Use of the beads for diagnostic applications is also described.
IT 185517-04-8P
(luminescent rare earth metal complex-containing polymer microbeads)
RN 185517-04-8 HCAPLUS
CN Terbate(1-), tetrakis[2-(hydroxy- κ O)-4-[[octadecylamino)carbonyl]amino]benzoato- κ O] - (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM C09K011-77
ICS C09K011-02; C08K005-56; C08J003-215; C08F002-44; C08F002-24; G01N033-68; C07F005-00; C07F009-547
ICA C07C275-42; C07D227-00; C07D307-12; C07D333-22
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 9, 38
IT 50583-46-5P, Ethylene glycol dimethacrylate-methacrylic acid-methyl methacrylate polymer 155806-30-7P
185517-04-8P
(luminescent rare earth metal complex-containing polymer microbeads)

L33 ANSWER 29 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1984:531698 HCAPLUS
DOCUMENT NUMBER: 101:131698
TITLE: Photostabilizing action of nickel(II)
bis(1-phenyl-3-methyl-4-decanoyl-5-
pyrazolate), Sanduvor NPU, in a polypropylene
matrix
AUTHOR(S): Allen, Norman S.; Chirinos-Padron, Alfonso;
Appleyard, John H.
CORPORATE SOURCE: John Dalton Fac. Technol., Manchester
Polytech., Manchester, M1 5GD, UK
SOURCE: Polymer Photochemistry (1984), 5(1-6), 333-49
CODEN: POPHDO; ISSN: 0144-2880
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The photostabilizing action of Sanduvor NPU [Ni(II)
bis(1-phenyl-3-methyl-4-decanoyl-5-pyrazolate)] (I) [56557-00-7] in polypropylene (II) [9003-07-0] was examined
using normal and second-order derivative UV, IR, and
phosphorescence spectroscopic techniques and hydroperoxide
anal. Although I quenched the phosphorescence emission
of benzophenone (III) sensitizer, there was no photoprotective
action when the samples containing I and III were irradiated. In the
case of anthraquinone sensitizer, there was no quenching and no
photoprotection. Processing history played a major role in
controlling the photostabilizing performance of I. The effect of
photosensitized oxidation with 365-nm light was examined While the
initial hydroperoxide concentration appeared to control the onset of
carbon growth in II, the rate of photodecompn. of I showed no
dependence on the hydroperoxide concentration The rates of photooxidn.
under polychromatic irradiation followed the same trends as those
obtained under monochromatic irradiation and the data were explained
in terms of hydroperoxide inhibition during processing, stabilizer
consumption during photooxidn., and macroalkyl radical scavenging.
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 35

L33 ANSWER 30 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1977:91255 HCAPLUS
DOCUMENT NUMBER: 86:91255
TITLE: Plastic lenses for glass melters
INVENTOR(S): Tucker, Robert J.
PATENT ASSIGNEE(S): American Cyanamid Co., USA
SOURCE: U.S., 3 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3997464	A	19761214	US 1975-577973	1975 0515
PRIORITY APPLN. INFO.:			US 1975-577973	A 1975 0515

AB Plastic lenses to protect glass workers from the eye-damaging

light emitted by molten glass are prepared by molding a mixture of cellulose propionate [9004-48-2] 1000, Calco Oil Blue FLP [61641-50-7] 0.372-0.344, C.I. Solvent Violet 13 [81-48-1] 0.990-0.562, and 2,2'-dihydroxy-4-methoxybenzophenone [131-53-3] 2.0 g. The lenses have thickness 130 mils and visible transmittance 0.11-1.0%.

IC F21V009-00

INCL 252300000

CC 37-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 59